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**Benchmarking Manual Handling Performance in  
Welsh Care Homes**

**HSL/2005/31**

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# EXECUTIVE SUMMARY

## OBJECTIVES

- To obtain a benchmark measure of manual handling safety management performance for the care home sector within Wales.
- To adapt an existing questionnaire for completion by managers in the care home sector in order to gain an insight into the cultural profile of safety management systems for manual handling risks, and to provide a benchmark measure of manual handling safety performance.
- To adapt an existing questionnaire for completion by members of the workforce in the care home sector in order to assess workforce perceptions of safety management systems for manual handling risks.
- To combine the workforce questionnaire with a separate questionnaire previously used by the Health and Safety Laboratory (HSL) to survey the prevalence of musculoskeletal trouble and psychosocial factors.
- As part of an inspection programme by Health and Safety Executive (HSE) and Local Authority (LA) inspectors, to carry out a cross-sectional survey of managers and employees in care homes across Wales using these questionnaires, and to analyse the results and report upon the findings.
- To report on the attitudes of LA and HSE inspectors in relation to the joint inspections.

## MAIN FINDINGS

- Questionnaires were completed by managers of 241 care homes from across Wales that were visited by HSE and LA inspectors in late 2004. Follow up visits by a survey company resulted in 860 workforce questionnaires being returned from 84 of these care homes.
- Manual handling problems appear to be well controlled in the care home sector in Wales, with low incidence and prevalence of musculoskeletal problems, positive attitudes among both managers and staff and the widespread availability and use of handling aids.
- The majority of staff in care homes are routinely involved in manual handling. 193 of 236 care homes (82%) reported that more than 80% of staff are routinely involved in manual handling tasks. 161 of 232 (70%) care homes reported that over 80% of staff involved in manual handling had received training in safe handling techniques. Another 42 (18%) reported that between 60 and 80% of these staff had received such training. Only 11 of 232 (5%) care homes had less than 40% of staff trained.
- Although over 90% of care homes stated that they utilised formal risk assessment, it is of concern that 8% did not have any formal risk assessments. Managers in 1% did not know if they had formal risk assessments. Of the respondents that reported having formal risk assessments, 66.7% reported having assessed 80-100% of manual handling tasks to date, 24% had assessed 60-80% of tasks, and 8% had assessed below 60%.

- Managers perceived that the levels of the corporate safety climate, the management commitment to health and safety, the cultural profile of health and safety, and the effectiveness of risk management systems were high. This homogeneity in responses across these four constructs indicates that managers' perceptions of safety management systems in the care homes surveyed were generally favourable, and that the opportunity for marked improvements in safety climate in care homes may be limited.
- Managers in the care homes that had the highest proportions of staff trained in safe handling gave higher ratings of the corporate safety climate than those that have the lowest proportion trained. The same effect was found when comparing homes with formal risk assessment programmes to those without.
- Management commitment to health and safety was seen to be substantially higher in Local Authority owned homes than in charity run homes. There was no difference with privately run homes.
- Overall the managers' perceptions were more positive about the general safety climate and management commitment in their care homes than towards the level of the cultural profile of health and safety among more junior staff and the use of risk assessments in the workplace.
- While some staff have many years of experience in their current job, the care home workforce has a significant number of new entrants each year and there is a high rate of turnover of staff, with 24% having less than one year's experience in their current job.
- The mean working week was 33 hours, with only 16% of respondents reporting working more than 40 hours per week.
- Mechanical handling aids are in general use and, in particular, hoists and slide sheets are very widespread. The availability of multiple types of devices is common and the available devices are in frequent use.
- Almost 90% of staff reported having received training in manual handling at some point but less than 75% reported receiving such training in the previous twelve months. The level of training was lower (between 50% and 70%) for staff that did not routinely perform manual handling tasks, but that this rate was still relatively high.
- 10% of respondents reported ever having had time off work due to problems caused or made worse by manual handling. Only 2.1% reported having taken time off work for this reason in the previous three months. Consistent with this, only 28% reported low back problems of any severity in the previous three months. In fact, prevalence rates of musculoskeletal trouble across the body were lower than those found with the same questionnaire in industrial workers and far lower than for a group of podiatrists.
- Comparison of the results of this study with the results of a recent Norwegian study of similar jobs showed that the prevalence rates in Welsh care home staff are significantly and remarkably lower.
- Workforce perceptions of the characteristics of their work, i.e., their responses on a series of psychosocial factors, were positive to very positive, especially when compared to other surveys using the same scales.

- Workforce perceptions of organisational control of manual handling risks in the care homes surveyed were generally favourable, except that only 31% believed that there were no further ways to reduce risks from manual handling. Ratings of organisational control of manual handling risks were significantly higher for the respondents who had received manual handling training than for those who had not received training.
- There were no significant relationships between management answers and employees' answers, but the questionnaires were not designed for the purpose of correlating their responses. There are some interesting parallels nevertheless that suggest there is consistency between management and workers' perceptions.
- Both workers and managers believed that manual handling risks could be reduced further. The suggested interventions included an increase in training, both initial and continuing; more equipment and lifting aids; and more appropriate use of space in the buildings. This therefore may signify that there does exist scope for improvement within most care homes.
- Overall, findings appear to suggest that the management of manual handling risks has a high profile for care home workers. Workforce perceptions were mostly positive and in marked contrast to results obtained from other industry sectors.
- The responses from the LA and HSE officers were predominantly positive concerning the utility and benefit of joint LA and HSE inspections.

## **RECOMMENDATIONS**

- Organisations within the care homes sector should be encouraged to maintain the present high standard of manual handling risk management systems reported in this study. They should be encouraged to seek even higher standards by considering ways in which they can better control, and further reduce the risks.
- Ideally, a longitudinal study should be conducted with a fixed group of care homes and care staff. This would permit the measurement of changes over time in the profile of manual handling risk management due to further management interventions to reduce risk. As such studies are difficult, time consuming, and expensive, serial cross sectional surveys of the management of risks within different care homes would also yield very valuable information.
- Although the levels of training were generally high, there is still a substantial number of staff not trained in manual handling and this should be remedied. A structured and standardised training scheme may alleviate the inconsistency between levels of training within care homes.
- The qualitative data provide care homes with recommendations from staff and management concerning methods of reducing manual handling risks. The main findings include an increase in training, both initial and continuing, more equipment and lifting aids and more appropriate use of space.
- Partnership working between LAs and HSE was viewed very positively; it would be beneficial for joint working to continue in appropriate situations.

# 1 INTRODUCTION

## 1.1 BACKGROUND

This report presents the findings from two concurrent cross-sectional questionnaire surveys of care homes across Wales conducted by the Health & Safety Laboratory (HSL) on behalf of the Field Operations Directorate (FOD) of the Health and Safety Executive (HSE). The questionnaires were designed to benchmark the current status of manual handling safety management systems within the care homes sector. One surveyed site managers and supervisors and the second surveyed the workforce. They obtained data on attitudes towards, and perceptions of the status of manual handling risk management systems within the sector. The workforce questionnaire also collected data on the prevalence of musculoskeletal problems, and the psychosocial status of the workforce. In addition, data were gathered from Local Authority and HSE inspectors concerning their opinions of the value of the project inspection approach when assessing standards of manual handling and consequent risk gaps in care homes.

## 1.2 MANUAL HANDLING IN RESIDENTIAL AND NURSING CARE

Manual handling is known as a hazardous activity that can cause low back pain and other musculoskeletal disorders (MSDs) (Pheasant, 1991). There is a legal framework under the *Manual Handling Operations Regulations 1992 (as revised)* (HSE, 2004), which requires that employers eliminate hazardous manual handling operations and, where they cannot be eliminated, carry out assessments of the risks of the remaining operations and reduce the risk so far as is reasonably practicable. There is generic HSE guidance on controlling the risks of manual handling published with the regulations (HSE, 2004).

In the context of health care, manual handling of patients has long been seen as a problem. This is true not only in nursing (e.g., Stubbs *et al.*, 1983, Leighton and Reilly, 1995, Hignett *et al.*, 2003, Smith *et al.*, 2003, 2004) but also in related areas such as the provision of residential social care. It is seen as a problem not only for qualified nursing staff but also for less skilled ‘certified nurse aides (CNAs)’ (SEIU, 1997), ‘care aides’ (Cohen *et al.*, 2004), ‘nurses’ aides’ (Eriksen, 2003), ‘care assistants’ or ‘care workers’ (Engst *et al.*, 2005). The evidence is that not only mechanical factors affect the incidence, prevalence, and duration of back pain, but that organisational and psychosocial factors also do so (Josephson *et al.*, 1997; Davis and Heaney, 2000, Eriksen *et al.*, 2004, Feuerstein *et al.*, 2005). Eriksen *et al.* (2004) listed the following factors as associated with an increased risk of intense low back symptoms and Lower Back Pain (LBP) related sick leave:

- Frequent mechanical exposures - frequent positioning of patients in bed and frequent handling of heavy objects at work;
- Organisational work factors - working in a nursing home or working night shifts;
- Psychological work factors – medium level of work demands and perceived lack of support from an immediate superior;
- Social work factors such as a perceived lack of a pleasant and relaxing or supporting and encouraging culture in the workplace.

The Service Employees International Union (SEIU) (1997) quoted 1994 data from the US Bureau of Labor Statistics showing that back injuries accounted for 27% of the injuries reported from the private sector, but 42% of all injuries in nursing homes and that over 50% of all

injuries to nurse aides were injuries to the back and trunk. They attributed the rise in injury rates to the increasing dependency of residents of nursing homes and a lack of commitment from nursing homes to controlling the risks to staff. They also reported that the nursing home industry was the most dangerous of twenty fast-growing industries and that injury rates exceeded those of mining and construction.

Eriksen *et al.* (2004) reported that 14.1% (536) of their sample of 4266 Norwegian nurses' aides originally surveyed in 1999 reported being intensely bothered by low back pain in a three month follow up period. 4.0% (152) reported at least one LBP related sick leave absence of longer than three days. After 15 months of follow up, 6.3% (228) reported at least one LBP related sick leave of longer than 14 days in the previous 12 months, and 3.3% (118) reported at least one LBP related period of sick leave lasting longer than eight weeks.

As a result of the substantial evidence regarding the risks of musculoskeletal disorders from patient handling, there has been a concerted move to provide aids to reduce the amount of manual handling carried out. On occasion these have been linked to 'no-lift' policies (Griffith and Stevens, 2004; Lovely and Gardner, 2005) and often require individual assessments of the handling needs of patients to be included in their care plans. There is increasing evidence of the efficacy of manual handling aids and mechanical handling equipment such as hoists in reducing the incidence of back pain and hence the social and economic costs associated with it (e.g., Chhokar *et al.*, 2005, Engst *et al.*, 2005).

### **1.3 MANUAL HANDLING AND RISK MANAGEMENT**

It is necessary to view the control of manual handling operations as an aspect of the broader risk management that occurs in a workplace. This wider context highlights the need to consider the underlying causes of the hazards associated with manual handling. Increasingly, corporate 'safety culture' and 'climate' are being viewed as important influences on levels of safety performance in the workplace. Recognition of this relationship between safety culture / climate and risk management is reflected in both the HSE Safety Climate Tool (HSE, 1997a) and HSG65: 'Successful Health & Safety Management' (HSE, 1997b).

A central premise of the safety climate approach is that the ways that employees deal with workplace hazards reflect, in some part, the priorities of senior management and the formal and informal systems of reward present within the work environment. The approach is based upon the principle that the majority of staff will conform to the norms of the workplace, and that these norms are malleable and vary between workplaces, manifesting themselves in the prevailing safety culture(s) – norms, values, attitudes, beliefs and practices – in a particular workplace.

Given the premise that cultural influences are a significant influence on personal disposition towards risk-taking behaviour at work, it follows that if the culture can be affected in a positive manner, then there will be an improvement in the standard of safety behaviour of members of that organisation.

A consensus is growing that a finite number of variables constitute the primary influences on workforce safety culture, with the most frequently reported one being 'management commitment to health and safety' (Hui Zhang *et al.*, 2002). This is widely considered to constitute the defining influence (e.g., Gershon *et al.*, 2000). Other potentially important factors identified include: 'performance pressure'; 'perception of risk' (in particular, locus of control / control bias); 'compliance with rules' and 'levels of workforce involvement in risk assessment and risk management'.

Senior management have a pivotal role in defining an organisation's safety climate (Flin *et al.*, 2000; Guldenmuld, 2000) and as the single most influential group, are able to:

- Define how work should be structured;
- Define the system of rewards and benefits;
- Define the parameters of acceptable performance of subordinate staff;
- Set goals; and ultimately,
- Impose sanctions for poor performance.

Therefore, at an intuitive level, the safety climate approach seems to possess notable credibility and face validity. Although cross-sectional evidence exists (e.g. Gimeno *et al.*, 2005) that there is an association between safety climate and work-related injuries, to establish a causal link between measures of safety climate and accident rates would require a prospective, longitudinal, study. However, empirical evidence of such an association has yet to be firmly established (Varonen and Mattila, 2000; Seppala, 1992). There are significant obstacles to establishing this association due to the nature of accident data. Accidents are often relatively infrequent events and rates can be significantly affected by small numbers of incidents. Data collected about accidents are therefore prone to noise and are also often incomplete and unreliable because accident reporting systems, such as accident books and RIDDOR 1995, often fail to record all relevant incidents or all relevant information about an incident. The situation is made more complex by the fact that the relationship between exposure of the workforce to the complex hazard of manual handling, where many interacting factors are present, and the incidence of accidents and injury is almost certainly non-linear (Dempsey and Westfall, 1997; Dempsey *et al.*, 2002).

While a reduction in accidents and injuries is clearly the ultimate objective of any company safety initiative, assessing impact by concentrating upon accident figures alone has limitations as it concentrates upon the relatively rare undesirable outcomes where actual harm is caused by a hazard. As noted above, care in interpretation is needed since small changes in the actual numbers of incidents cause large variations in frequency. Also, concentrating on actual incidence of harm ignores the more common situations where risk of harm exists but is not translated into actual incidents. This gap between risk and outcome should reflect control of the hazardous situations at both the organisational and individual worker levels but also includes near-miss situations.

Also, it is believed that there may be an association between outcome cross-sectional measures of musculoskeletal trouble, such as the Nordic Musculoskeletal Questionnaire (NMQ) (Dickinson *et al.*, 1992; Pinder, 2004), and measures of risk, such as staff perceptions of safety climate in relation to manual handling.

#### **1.4 MEASUREMENT OF ATTITUDES ABOUT SAFETY MANAGEMENT**

The majority of measures of safety climate developed and applied to date, centre on the measurement of staff attitudes to risk, generally gathered by means of interviews or self-completed questionnaires (Cooper and Philips, 2004; Yule, 2003).

The potential for attitude measures to be susceptible to extraneous influences, e.g. variability in levels of job satisfaction, or prevailing management / employee relations can limit their utility as a means of comparing individual workplaces, especially where numbers are small. A more

robust approach benchmarks safety performance by grouping similar organisations in terms of a range of categories, for example by size or nature of activity. Within this context, repeated distributions of a questionnaire can be used to provide a measure of change over time.

In the past, safety climate approaches have been used as both a means of monitoring changes in attitudes, pre and post interventions, and as means of providing an agenda for the discussion and subsequent development of health and safety initiatives. Therefore, recent HSL work in the offshore and chemical industries (Weyman and Milnes, 2001; Marlow and Weyman, 2004a, 2004b) had, in common with recent work on safety culture / climate, applied individual attitude assessment techniques to the measurement of organisations and groups of organisations.

Safety climate measures are based upon people's perceptions of salient issues so may be at variance with the actual conditions. However, a strength of such tools is the fact that they can be used to measure changes in perception over time. In other words, if repeated surveys reveal changes in attitude, they can reasonably be assumed to reflect some change in the social and physical conditions that prevail in the workplace.

## **1.5 THE RELATIONSHIP BETWEEN ATTITUDES AND BEHAVIOUR**

Attitude based measures of safety culture and climate are increasingly being applied in a wide range of industrial contexts, to provide an insight into the profile ascribed to workplace health and safety management (Cox & Flin, 1998; Dedobbeleer and Beland, 1991, Diaz and Cabrera, 1997, Mearns *et al.*, 1998). The approach provides a supplementary measure of safety performance, other than typically 'noisy' and potentially misleading accident and incident data.

However, it should be remembered that questionnaire-based measures only provide a direct measure of attitude and, at best, an indirect measure of behaviour. This is of note, given widespread evidence of attitude measures having potential to constitute relatively weak predictors of behaviour. Measures of attitude should be viewed as a reflection of behaviour. As such, changes in behaviour can reasonably be inferred by the measurement of attitude change over time.

Although, more traditionally, attitude measures have been used to make distinctions between individuals, within the context of measures of safety climate they are more commonly used as a means of 'measuring organisations', or a range of organisations of a similar type. This typically involves the aggregation of scores from a sample of respondents on the issues of interest, and allows the comparison of scores for a range of respondent groups. Hence, safety climate measures can be used as a means of measuring organisational performance, in terms of a given set of criteria over time. This may be extended to the comparison of groups of organisations of a similar type, subdivided, for example, by size or type of work performed.

In the specific context of manual handling the evidence to date appears to be sparse but studies have shown that training in manual handling techniques is largely ineffective (Daltroy *et al.*, 1997) and that behaviour-based safety approaches have limited effectiveness in the management of manual handling issues (Kay and Gardner, 2004). There is recent evidence (Johnson and Hall, 2005) that perceived behavioural control is a factor directly associated with safety related behaviour in lifting, and that there is an indirect relationship between attitudes and safe-lifting behaviour, which is mediated via subjective / cultural norms and perceived behavioural control.

## **1.6 AIM**

The requirement for a benchmarking tool within the current context was to provide a measure of the status of manual handling risk management in care homes and.

The aim of this study was to obtain a benchmark measure of manual handling risk management performance for the care home sector within Wales, through meeting the following objectives:

- To adapt an existing questionnaire for completion by managers in the care home sector in order to gain an insight into the cultural profile of safety management systems for manual handling risks.
- To adapt an existing questionnaire for completion by members of the workforce in the care home sector to assess workforce perceptions of safety management systems for manual handling risks.
- To combine the workforce questionnaire with a separate questionnaire previously used by HSL to survey the prevalence of musculoskeletal trouble and psychosocial factors.
- To use these questionnaires to carry out a cross-sectional survey of managers and employees in care homes across Wales linked to an inspection programme carried out by HSE and LAs.
- To analyse the results and, where possible, to make comparisons between care homes grouped by type.
- To report upon the findings from the questionnaires and from a proforma completed by the inspector visiting a care home.

## 2 METHODS

### 2.1 OUTLINE

In late 2004 HSE inspectors of health and safety and Local Authority (LA) Environmental Health Officers (EHOs) carried out a joint Wales-wide programme of inspections of care homes that concentrated specifically on manual handling issues. Some visits were carried out singly and some were carried out jointly. The care homes that were visited received a briefing about the manual handling campaign and a questionnaire designed for completion by care home managers. At a later date, a market research company distributed and collected a second questionnaire aimed at a sample of the workforce.

The managers' questionnaire had been used previously by HSE and HSL in the chemicals industry and the offshore industry (Weyman and Milnes, 2001; Marlow and Weyman, 2004a). It provided a means of gathering data on the current status of manual handling management systems.

A workforce questionnaire (Weyman and Milnes, 2001; Marlow and Weyman, 2004b) had been used alongside the managers' questionnaire in the chemicals and offshore industries. It had originally been developed as a benchmarking tool for organisations to use to monitor the effects of in-house manual handling initiatives on shop-floor attitudes. It was combined with a revision (Pinder, 2001) of the HSE version of the Nordic Musculoskeletal Questionnaire (Dickinson *et al.*, 1992) and a psychosocial questionnaire (Pinder, 2001), both of which have been used as part of an HSL study of 515 industrial workers in a variety of industries carrying out manual handling as a regular part of their jobs (Pinder 2002, 2004). These latter two questionnaires have also been used in a survey of podiatrists (Lee and Jones, 2004).

### 2.2 DEVELOPMENT OF THE MANAGERS' QUESTIONNAIRE

#### 2.2.1 Construct definitions

Appendix 1 contains a copy of the managers' questionnaire, which was designed to measure attitudes on a range of constructs. The constructs identified for inclusion were: 'Corporate Safety Climate' (CSC); 'Management Commitment' (MC); 'Cultural Profile' (CP) and 'Risk Management Systems' (RMS). They were selected by applying findings from the safety culture / safety climate and risk management literature to manual handling. In other words, the development of the questionnaire drew insights from the wider risk literature regarding organisational performance with respect to safety management systems and used them to help generate a question set which specifically addressed manual handling issues.

'*Corporate Safety Climate*' reflects the defining background influence on the safety climate of the organisation. It relates to the level of corporate priority ascribed to health and safety in the organisation. This is, for example, reflected in the amount of resource made available for health and safety, e.g. safety training; time made available for safety meetings; resources made available for the development of effective safety management systems, as well as levels of equipment and resources for safe manual handling.

'*Management Commitment*' relates to the level of relative priority ascribed to health and safety management on a day-to-day basis within the organisation. Managers can be characterised as being subject to a range of competing demands, of which health and safety is one. Numerous studies suggest that active and visible management involvement in day-to-day health and safety management and initiatives has a positive impact upon the extent to which senior managers are

seen to prioritise health and safety by subordinate staff. Managers also define the parameters of 'acceptable' and 'unacceptable' safety behaviour in the organisation, and are in a position to establish the related system of rewards and punishments, and the degree of consistency with which these are applied.

'*Cultural Profile*' relates to the level of priority and concern ascribed to health and safety amongst a workforce. For example, where supervisors and their staff demonstrate a high level of concern then this is likely to increase their disposition towards precautionary / safe manual handling behaviour. Cultural Profile relates to the nature of socially negotiated / legitimised behaviour in the workplace, including 'acceptable risk' behaviour. A central premise is that the profile of health and safety in the workplace reflects the influence of the senior staff within the organisation.

'*Risk Management Systems*' relates to the status of risk management systems, in particular the extent to which these can be considered to be established, under development, or effectively absent. This factor reflects the publicly demonstrable level of priority ascribed to health and safety by the organisation. Risk management systems that are well developed are considered to indicate a proactive management that places a relatively high value upon health and safety management. Where systems are underdeveloped, or effectively absent, then it would seem reasonable to assume that the converse is true.

### **2.2.2 Development of construct scales**

The construct scales for the managers' questionnaire were originally designed for benchmarking manual handling performance within the chemicals industry (Weyman and Milnes, 2001). Due to the generic nature of the material, only minimal modification was required in order for the construct scales to be suitable for use in the care home sector. This resulted in some slight textual modifications being made in order to ensure relevance to care home personnel. A full description of the piloting study and reliability testing conducted within the chemicals industry can be found in Weyman and Milnes (2001).

Based upon contemporary research evidence from studies of safety climate, a finite number of items were identified to form the basis of the benchmark measure. To aid the analysis and interpretation of results and given that the questionnaire would be of the self-completion variety, the questions were constructed using a closed, 'tick the box' format, rather than an open-ended format. Therefore the following approach was adopted:

- Each of the four factors was assigned a number of questions.
- Each question was designed to deal with a specific aspect of a single factor, e.g. 'Staff involvement in initiatives'.
- Each question was answered using a five-point anchored scale, ranging from negative to positive, with each point on a scale being represented by a statement about a particular aspect of an organisation's manual handling regime.
- Respondents were required to indicate the statement that provided the best description of their organisation's performance on that variable.

Each scale was designed to reflect a number of related facets considered to possess face validity in terms of the defined construct. The aggregation of these scores, for groupings of respondents, permitted comparisons to be made between groups.

### **2.2.3 Site demographic data**

In addition to the construct scales outlined above, data were collected that addressed the following issues:

- Size of site, defined both in terms of number of employees and number of clients;
- Type / purpose of care home (e.g. nursing care, residential care, respite clients);
- Type of organisation that owns the care home;
- Proportion of staff routinely involved in manual handling activity;
- Proportion of staff trained in safe manual handling techniques;
- Presence of a formal system for assessing manual handling tasks;
- Proportion of manual handling tasks formally assessed to date.

Questions in this section of the questionnaire were adapted slightly from those used in benchmarking the performance of the chemicals industry (Weyman and Milnes, 2001). These changes reflected joint discussion with the HSE customer, and ensured that the questionnaire was specifically relevant to the care home sector.

## **2.3 DEVELOPMENT OF THE WORKER QUESTIONNAIRE**

### **2.3.1 Sources of the questionnaire components**

Appendix 2 contains a copy of the workforce questionnaire that was used in this survey. Through consultation with HSE, it was agreed to use the questionnaire previously used with the chemicals industry and offshore industry (Weyman and Milnes, 2001; Marlow and Weyman, 2004b) to assess worker attitudes to the status of the management of manual handling risks within the care home sector. Minor modifications were made to ensure that these questions were appropriate to the care home sector.

A slightly modified form of a questionnaire used as a baseline measure in a longitudinal study of lost time due to back pain in workers involved in regular manual handling was added to the workforce questionnaire (Pinder, 2001, 2002, 2004). This study ('the NIOSH project') was designed to test the ability of the NIOSH lifting equations (Waters *et al.*, 1994) to predict lost time from back pain due to manual handling. The questionnaire consisted of background demographic questions, questions on musculoskeletal trouble, and questions on psychosocial factors. The questionnaire had previously been modified slightly in the light of the preliminary findings of the NIOSH study and used with a sample of podiatrists (Lee and Jones 2004). This study of care homes is the first where these questionnaires had been used together. For the purposes of this study a number of demographic questions were removed, and other targeted questions, such as on the use and availability of handling aids, were included.

The combined questionnaire was piloted with a small sample of care workers in a local care home prior to distribution and appropriate modifications made as a result. In particular, questions about the amount of manual handling undertaken by individuals were discarded when it was found that the responses were unreliable. This appeared to be due to the difficulty of framing questions that are unambiguous and that capture accurate data on patient handling which by its very nature is complex, intermittent, and of variable frequency, duration and intensity.

### **2.3.2 Demographic information**

The questionnaire asked background questions about the individual, the workplace and job. Another section sought information on training in manual handling of patients, the availability of mechanical handling devices and aids and the frequency with which they were used in the care home. Information gathered included:

- The kind of organisation that owned the care home: Local Authority, NHS trust, Charity, Private firm;
- The type of care provided by the home: Residential care, Nursing care, Respite care, Day care, Group home / community care;
- How long the respondents had been working in health care and how long they had been working in that particular care home; their job in that care home and the hours per week they work in that and other care homes;
- Whether respondents had received manual handling training / refresher training in the previous twelve months;
- The availability of mechanical handling aids for handling residents;
- How often staff in that care home make use of the available handling aids.

These questions were included to permit statistical testing of differences to be performed between sub-sets of the sample. The demographic criteria selected varied in detail in comparison with previous applications of the benchmarking tool in the chemical and offshore sectors. These changes were the product of tailoring the questionnaire to reflect the care homes sector, following discussions with the HSE customer.

### **2.3.3 Musculoskeletal disorders**

A section on musculoskeletal disorders included questions about time off work due to problems caused or made worse by manual handling. The remainder of the section consisted of the revision of the HSE version of the NMQ used by Pinder (2001, 2004). For each of nine body areas (Neck, Shoulders, Elbows, Wrists/Hands, Upper Back, Lower Back, Hips/Thighs/Buttocks, Knees, Ankles/Feet) it asks about musculoskeletal 'trouble' (ache, pain, discomfort, numbness, tingling or pins and needles) experienced in the previous three months and in the previous seven days. For bilateral body parts such as the wrists/hands it asks if the trouble was in the right, left or both sides of the body, it assesses severity by asking if trouble suffered in the previous three months had affected normal activities such as the job, housework, or hobbies. It assessed work-relatedness of the trouble suffered in the previous three months.

### **2.3.4 'Work Characteristics' psychosocial question set**

In order to permit the NIOSH project to measure psychosocial factors as well as workplace factors (Davis and Heaney, 2000), and the prevalence of musculoskeletal trouble with the NMQ, the 'Work Characteristics' question set was developed by Pinder (2001). This was based on a Swedish original (Johansson and Rubenowitz, 1994) containing 25 questions equally distributed across five psychosocial factors. A sixth factor was added due to evidence gathered by HSL showing that management commitment to health and safety is an important psychosocial factor (Boocock and Weyman, 1998). This additional factor was created with five questions, giving a total of 30 questions. The six factors are listed in Table 1. Five-point Likert-type scales with anchors of 'Strongly disagree' = 1 and 'Strongly agree' = 5 were used and the questions were

grouped by factor, with all positive responses being in the same direction. Scores for each factor were obtained by adding the scores on the five items in the factor.

**Table 1. Factors within the Work Characteristics question set**

<i>Factor</i>	<i>Factor name</i>
WCF1	Influence on and control over work
WCF2	Supervisor climate
WCF3	Stimulus from the work itself
WCF4	Relations with fellow workers
WCF5	Psychological work load
WCF6	Management commitment to health and safety

Factor analysis has shown that the six factors are orthogonal, i.e. independent (Pinder, 2001). Previous reliability analysis (Johansson and Rubenowitz, 1994) had shown high reliabilities (Cronbach's alpha between 0.82 and 0.85) on all except the first factor (0.65). Piloting showed that the sixth factor had a reliability of 0.88 (Pinder, 2001).

### **2.3.5 Organisational Control of manual handling risks question set**

The question set developed for the chemical and offshore industries workforce questionnaire formed the final part of the questionnaire. For the purpose of this study it was given the title 'Organisational Control of manual handling risks'. The original work in the chemicals sector (Weyman and Milnes, 2001) had identified three constructs (attitude scales) for inclusion in the questionnaire. These were designed to tap perceptions of:

- Management Commitment and Background Climate (PMC)
- Rules, Procedures and Monitoring (RPM)
- Staff Training and Involvement (STI)

*'Perceptions of Management Commitment and Background Climate'*: This reflects a measure of employees' perceptions of management commitment to safe manual handling procedures in the workplace. Questions principally pertain to perceptions of the commitment of senior management to health and safety, but also relate to commitment of supervisory staff, which could be indicative of supervisors' interpretations of explicit and / or implicit safety messages that emanate from senior management. Primary themes within this factor appear to relate to the extent to which senior staff are perceived to be consistent in their approach to the day-to-day management of health and safety, and the extent to which they are considered sincere in prioritising safety issues.

*'Rules, Procedures and Monitoring'*: This scale relates to employees' perceptions of the cultural profile of manual handling rules and procedures, primarily, the extent and consistency with which these are applied, the practicability / workability of rules and procedures, and levels of compliance in the workplace.

*‘Staff Training and Involvement’*: Principally, this reflects the extent to which employees have received training in safe manual handling techniques, and aspects relating to the degree to which employees are involved in conducting manual handling risk assessment and developing safe systems of work.

One item was removed from the previous questionnaire, as it was not relevant to the care home setting. This was formerly item 17 – *‘The company seems to be making significant efforts to reduce the sizes of packaging of goods, supplies and materials which people have to handle here’*.

Responses to the statements in the questionnaire were on five point Likert-type scales, with anchor points of ‘Strongly Agree’ = 1; ‘Agree’ = 2; ‘Uncertain’ = 3; ‘Disagree’ = 4 and ‘Strongly Disagree’ = 5.

All questions in this section of the questionnaire were presented in randomised order and to avoid response bias, a number of the questionnaire items were phrased negatively to reflect inappropriate practice (e.g. *‘When the pressure’s on, management tend to turn a blind eye to rules being broken, if it means that jobs get done’*). Table 2 outlines the questions that map onto each scale (Weyman and Milnes, 2001).

**Table 2. Summary of Organisational Control scales**

<i>Scale</i>	<i>Positive scale items</i>	<i>Negative scale items</i>	<i>Total items</i>
Perceptions of Management Commitment & Background Climate (PMC)	1, 9, 13, 14, 20, 23, 27	6, 7, 16, 18, 24	12
Rules, Procedures and Monitoring (RPM)	4, 10, 11, 17, 22, 28	2, 25	8
Staff Training and Involvement (STI)	8, 12, 15, 19, 21, 26	3, 5	8

A score on each scale for each individual was obtained by summing scores (after reversing negative questions) from the questions related to that scale. Lower (more positive) scores indicate the degree to which respondents feel that manual handling issues are being effectively addressed in their place of work. Higher (more negative) scores indicate the extent to which respondents feel that these issues are not being effectively addressed.

## **2.4 QUESTIONNAIRE DISTRIBUTION**

The questionnaires were distributed separately. The managers’ questionnaires were distributed to care home managers during a joint programme of LA and HSE inspection visits throughout the Welsh care home sector. All Local Authorities in Wales were asked to participate. The first contact with the care home involved a Local Authority EHO and/or an HSE inspector visiting a sample of ten care homes in their locality. At this initial contact, they asked a manager to fill in the managers’ questionnaire. The questionnaires asked for the name of the care home but were anonymous in that they did not ask the name of the individual completing it. Completed questionnaires were returned by post to a member of admin staff in HSE and then forwarded to HSL for analysis. The inspector making the initial visit passed details of the care home to a market research company, Wirthlin Europe.

Wirthlin Europe arranged with the care home a visit at which they distributed the workforce questionnaires. The target was set at a minimum of ten questionnaires completed by each care

home visited. Where possible, Wirthlin collected the questionnaires on the same day, but in some cases they returned on another day. The questionnaires were completed anonymously by individual workers but did have the name of the care home for cross-referencing the results to the managers' questionnaire. Wirthlin Europe returned completed questionnaires to HSL.

Because of the constraints of the project, only a proportion of the care homes inspected were visited by Wirthlin, largely those visited towards the start of the inspection phase.

## **2.5 DATA ENTRY AND ANALYSIS**

Data entry was subcontracted by HSL to a specialist firm, IDEA. Discussion with them while the questionnaires were being finalised ensured that ease of data entry was taken into account in formulating the questions and they were given advice on how to handle missing data and extra data. The entered data were returned in CSV format files with one line per respondent. Each care home was given a unique reference number that was common to the managers' questionnaire. Each individual worker was given a separate unique reference number in order of entry to the file. The file was imported into a spreadsheet for data screening, including checking for outliers, and for manipulation prior to transfer into SPSS for Windows V12 for analysis.

For questions where multiple responses were offered, tick boxes were provided which were numbered sequentially from 1 to indicate the code for each possible response. Where multiple responses to a question were permitted (e.g., types of care provided by the care home) a separate variable was used for coding the response to each option with non-responses (e.g., that type of care is not provided) being coded as a blank.

A number of secondary variables were calculated from the primary variables. Where individuals had reported their height and weight in Imperial units these were converted to SI units. Body Mass Index was calculated as body mass divided by the square of stature. Date of birth was coded by IDEA as year of birth even when the full date was given. Age was calculated by subtracting the year of birth from 2004. Since the questionnaires were completed between late August and early to mid December 2004 a one year error in calculating age in calendar years will have only occurred for the minority of individuals whose birthday was later in the year than the date they completed the questionnaire.

Time working in health care and in a particular care home was calculated from the full entry date and the start dates given. Where respondents had entered only a year as a start date, a value of 01 July was assumed as an average start date within the year. Where respondents had entered only a month and year a start date of the 15<sup>th</sup> of the month was assumed as an average start date.

A significant number of 'Other' responses were received to the question on job. It was possible to reclassify many of these into existing categories (E.g., 'Senior Carer' as 'Care assistant' and 'Deputy Manager' as 'Manager'). Where multiple entries had been made, a decision was made as to the primary job. Additional categories of 'Cook/kitchen staff', 'Domestic staff', 'Maintenance staff' and 'Admin staff' were created for all but three of the remaining 'Other' responses.

Total weekly working hours were calculated from the values for the current and other care homes. For those individuals who reported time off due to back pain, the reported durations in weeks and days were converted to days.

The nature of the MSD questions sometimes encourages respondents to omit further questions on a body part when they have reported that they have not had trouble in that part in the

previous three months as this means that they cannot have had problems in the previous seven days and their work cannot have been affected or the trouble made worse by work. The spreadsheet was used to insert the correct values in these and other logically necessary cases.

Where musculoskeletal trouble was reported as both 'caused' and 'made worse' by work, this was coded as the more severe case of 'caused' by work. Where both 'Left only' and 'Right only' options were ticked on a body part, this was coded as affecting both sides of the body. Where incoherent answers were given (such as reporting that no trouble was suffered in the previous three months but that it was suffered in the previous seven days, missing values were coded for all four responses for that body part.

Frequencies for the reports of musculoskeletal trouble were calculated in a spreadsheet. Where three-month trouble was reported, marginal frequencies were calculated for seven-day trouble, three-month disability and trouble caused or made worse by work. Bilateral and unilateral rates were also calculated for the limbs, as was the 'caused': 'made worse' ratio for trouble reported as caused or made worse by work.

Factor totals for the Work Characteristics and Organisational Control scales were calculated by summing scores on individual responses, reversing negatively scored items on the Organisational Control scales. When calculating factor totals, missing values were coded for the total if one or more values contributing to that factor total was missing. Where one or more factor totals were missing, missing values were coded for all factor totals

In the small number of cases, where the data entry operators had coded error values, data screening was carried out by examining the original questionnaires, and where possible, making appropriate corrections. During this process, no coding errors were discovered.

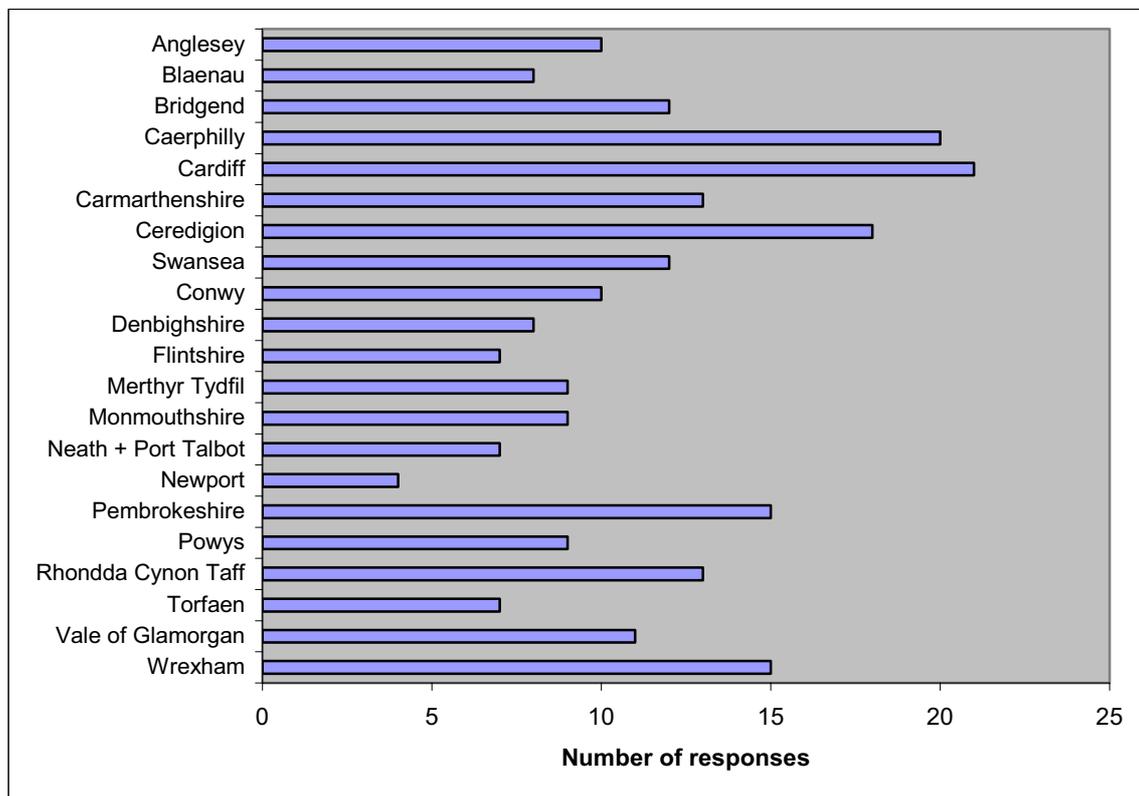
### 3 MANAGEMENT SURVEY DEMOGRAPHIC RESULTS

A total of 241 managers' questionnaires were returned to HSE and forwarded to HSL. Inevitably, some data were missing so the rates reported below are usually for sample sizes in the region of 220 responses.

The managers / supervisors questionnaire was divided into two parts: Section A related to categorical data, on aspects such as size of site, number of employees and numbers trained in manual handling etc, while Section B comprised a series of scaled response items that mapped onto four factors / construct scales: 'Corporate Safety Climate'; 'Management Commitment'; 'Cultural Profile', and, 'Risk Management Systems'. This section of the report presents an overview of responses to the questions in Section A.

#### 3.1 LOCAL AUTHORITY

Figure 1 describes the sample with respect to the Local Authority under which the responding care homes fall.



**Figure 1. Distribution of care homes surveyed by Local Authority**

All Local Authorities in Wales participated in the survey, except for one Local Authority that did not meet the deadline for questionnaire collection, with the result that their data have been omitted from the analysis.

### 3.2 OWNERSHIP OF CARE HOMES

Figure 2 shows the distribution of the type of organisation that owns the care homes. As can be seen, 82.5% of 229 care homes (N = 198) participating in this study were privately owned businesses.

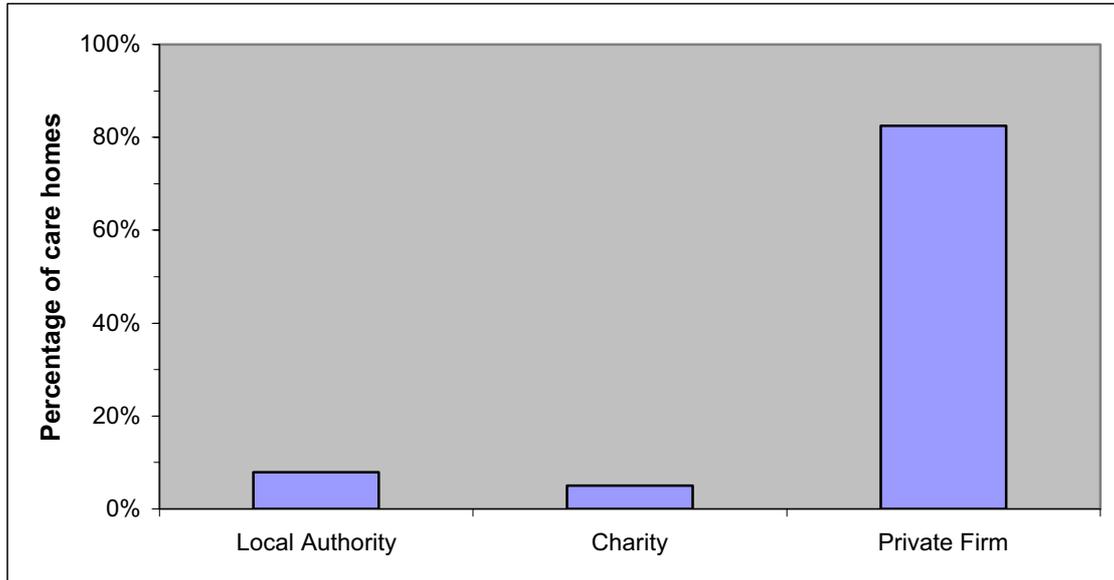


Figure 2. Nature of owner organisation

### 3.3 NUMBER OF CARE WORKERS ON SITE

Figure 3 shows the distribution of the total number of care workers on each participating site. Out of 237 responses, 124 (52.3%) employed between 11 and 20 care workers and 84.3% (N = 200) employed between 11 and 40 care workers.

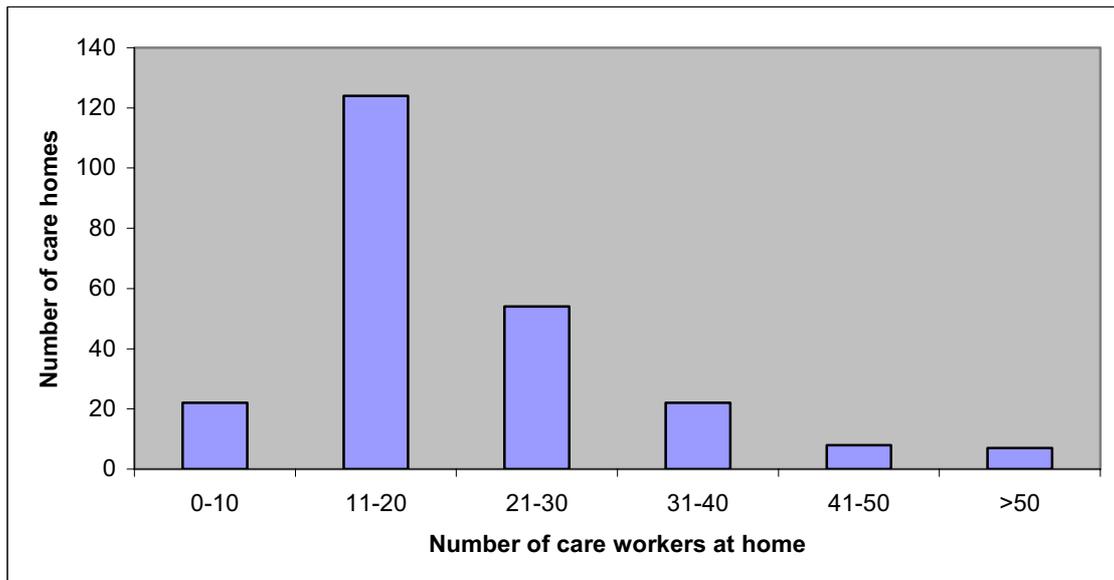


Figure 3. Distribution of number of care workers on site

### 3.4 NUMBER OF CLIENTS AT THE CARE HOME

Figure 4 shows the distribution of the total numbers of clients at each care home. It is apparent that there is a fairly normal distribution of care home sizes with 181 of 241 (75.1%) having between 11 and 40 clients.

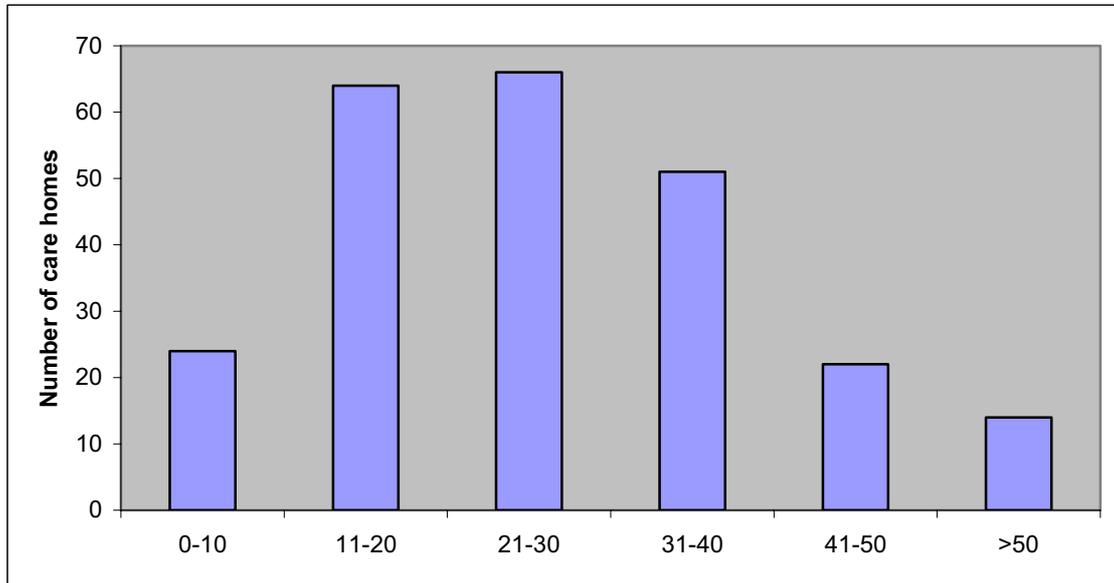


Figure 4. Number of clients in care home

### 3.5 PRIMARY PURPOSE OF CARE HOME

A question in Section A of the managers' questionnaire asked about the purpose / role of each care home. As homes can provide multiple types of care, it was decided to classify each home with respect to the *primary* type of care provided (i.e. which type of care most beds are allocated to). It is apparent from Figure 5 that the majority (n = 192) of 241 care homes responding to the questionnaire provided primarily residential care (79.7%).

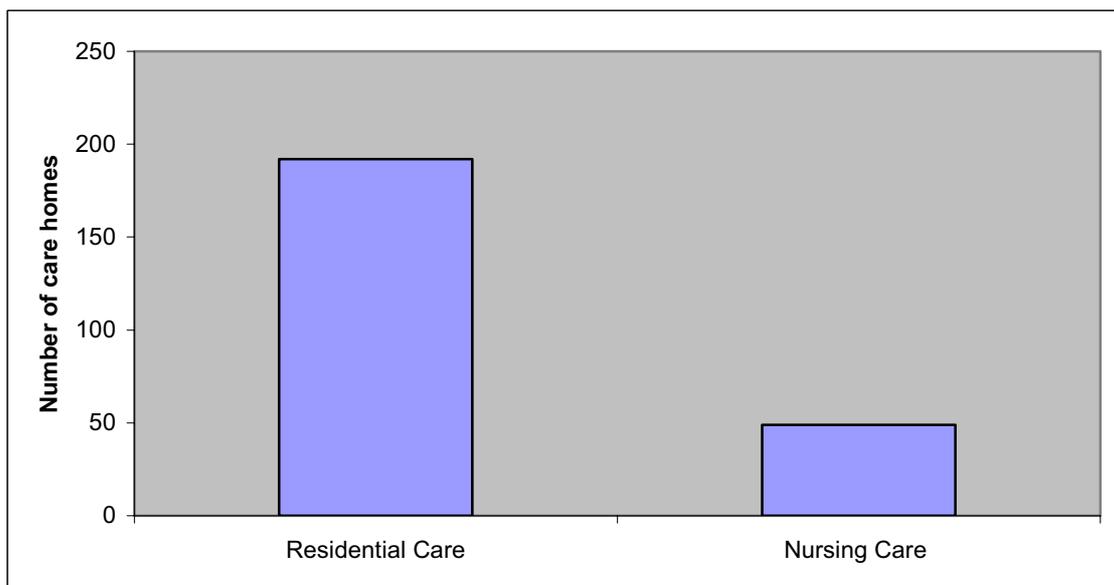


Figure 5. Primary care type provided by responding care homes

### 3.6 PROPORTION OF STAFF ROUTINELY PERFORMING MANUAL HANDLING TASKS

Care home managers were asked to indicate the proportion of personnel on site who routinely perform manual handling tasks. Figure 6 below shows the distribution of responses to this question. It is apparent that 193 of 236 responding care homes (81.8%) reported that greater than 80% of their staff are routinely involved in manual handling activity.

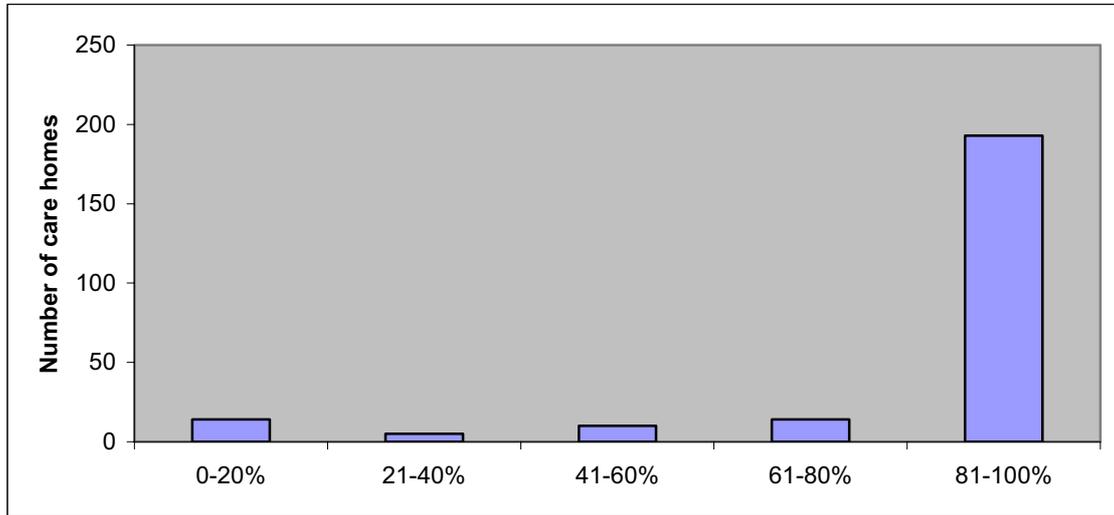


Figure 6. Proportion of staff who regularly perform tasks involving manual handling

### 3.7 PROPORTION OF STAFF INVOLVED IN MANUAL HANDLING WHO HAVE RECEIVED TRAINING IN SAFE HANDLING TECHNIQUES

For those staff routinely involved in manual handling activities, managers were also asked to indicate the proportion that had received training in safe handling techniques (Figure 7). 161 of 232 responses (69.4%) indicated that more than 80% of staff involved in manual handling had received training in safe handling techniques. A further 42 (18.1%) reported that between 61 and 80% of their staff had received this training.

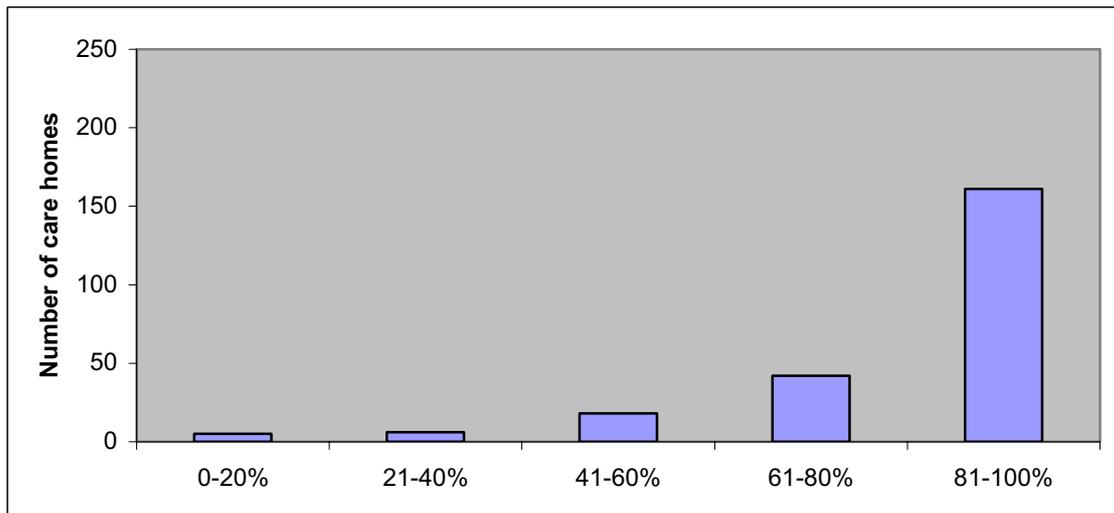


Figure 7. Proportion of staff who have received training in manual handling

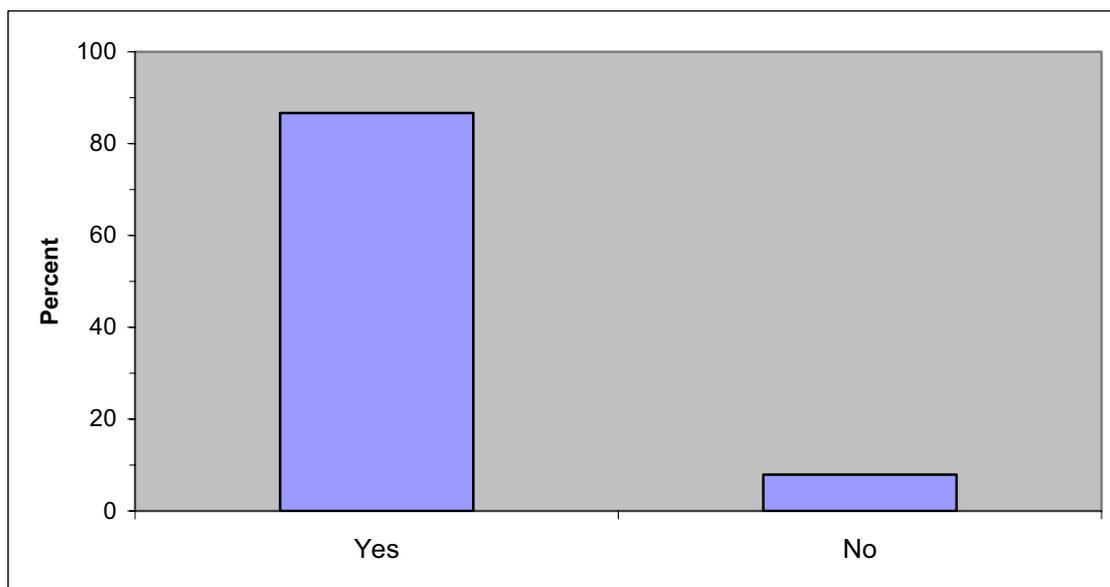
As will be discussed later, in more detail, findings relating to the four factor scales in Section B of the managers' questionnaire - ('Corporate Safety Climate', 'Management Commitment', 'Cultural Profile' and 'Risk Management Systems') indicate that there is a statistically significant relationship between the proportion of staff trained in safe handling and ratings of Corporate Safety Climate, whereby higher scores are observed at those sites where a greater proportion of staff are trained in manual handling. This means that when staff are trained, they believe that the organisation they work for are concerned and proactive about safety issues.

It should be noted that although the levels of training appear high, almost 20% of staff that are involved in manual handling are untrained.

### 3.8 FORMAL RISK ASSESSMENTS ON SITE

90.5 % (N = 209) of manager respondents reported that their worksite had a formal programme for conducting manual handling risk assessments. However, 8.2% (N = 19) reported that their site did not have a formal programme, and 1.3% (N = 3) did not know whether a programme was in place on their site or not.

Of the 90.5% of respondents that reported having a formal risk assessment programme in place, 66.7% reported having assessed 80-100% of manual handling tasks to date, 24% assessed 60-80% of tasks, and 7.9% assessed under 60% of tasks. 1.5% (N = 3) of managers and supervisors did not know the proportion of manual handling tasks formally assessed at their site (Figure 8).



**Figure 8. Formal system for manual handling risk assessment in place**

The Manual Handling Operations Regulations (MHOR) 1992 (as amended) (HSE, 2004) require that, where possible, employers avoid hazardous manual handling. Where it is not reasonably practicable to avoid such handling, Regulation 4 (1) (b), requires that they carry out risk assessments and take action to reduce the risks as far as is reasonably practicable. Such an assessment must be suitable and sufficient. Paragraphs 53 and 54 of the HSE guidance on the MHOR 1992 specifically refer to moving and handling people and describe the assessment of risk in this context as a complex task. Therefore, the expectation must be that for a risk assessment of patient handling in a care home to be suitable and sufficient, it must be formal and written. Therefore the presumption must be that the organisations that do not have formal written risk assessments are not compliant with the MHOR 1992.

### 3.9 SITE SIZE

A Chi-squared ( $\chi^2$ ) test was carried out to test for the presence of an association between size of site (as determined by the number of employees on site) and the proportion of staff involved in manual handling that have received training in safe handling techniques. There was no significant difference between the number of staff on site and the number of those trained in manual handling techniques.

### 3.10 MANUAL HANDLING LEVELS VS. TRAINING LEVELS

A cross tabulation was conducted to investigate manual handling levels and training levels (Table 3). Examination of the data shows that 64% fall into the bottom right cell where 81-100% of staff are involved in manual handling and 81-100% have received training. Not surprisingly, the homes where high proportions of staff were performing manual handling tasks were the ones that had high proportions trained in safe handling. For the sub-group where 81-100% of staff performed manual handling tasks then 77.8% had been trained in safe handling.

**Table 3. Manual handling training against manual handling activity**

		<i>Proportion of staff doing manual handling tasks</i>					<i>Total</i>
		<i>0-20%</i>	<i>21-40%</i>	<i>41-60%</i>	<i>61-80%</i>	<i>81-100%</i>	
<i>Proportion of staff trained in safe handling</i>	<i>0-20%</i>	1	1	0	0	1	3
	<i>21-40%</i>	0	1	0	1	3	5
	<i>41-60%</i>	2	0	2	1	9	14
	<i>61-80%</i>	1	0	1	3	27	32
	<i>81-100%</i>	8	3	6	8	140	165
<i>Total</i>		12	5	9	13	180	219

The  $\chi^2$  test was used to investigate the distribution within Table 3. Because of the skew of the distribution, expected frequencies in many cells were less than 3. Therefore to make the  $\chi^2$  test reliable, proportions below 80% were combined for both variables. This resulted in the  $2 \times 2$  contingency table in Table 4.

**Table 4. Manual handling training against manual handling activity**

		<i>Proportion of staff doing manual handling tasks</i>				<i>Total</i>
		<i>Observed</i>		<i>Expected</i>		
		<i>0-80%</i>	<i>81-100%</i>	<i>0-80%</i>	<i>81-100%</i>	
<i>Proportion of staff trained in safe handling</i>	<i>0-80%</i>	14	40	9.62	44.35	54
	<i>81-100%</i>	25	140	29.38	135.02	165
<i>Total</i>		39	180	39	180	219

The  $\chi^2$  test of the data in Table 4 showed ( $\chi^2 = 13.0$ ,  $df = 1$ ,  $P < 0.001$ ) that staff in care homes where many were involved in manual handling were more likely to have been trained than expected and staff in care homes where relatively few were involved in little manual handling were less likely to have been trained than expected. The absolute differences were relatively small, with an excess of 4.98 care homes in the high manual handling / high training group and an excess of 4.38 care homes in the low handling / low training group.

The level of training is not as high as expected. Refresher training and the quality of training were not measured within this questionnaire but were identified as key themes from the open questions. Staff and management stated that the quality of training and the frequency could be improved upon.

## 4 MANAGEMENT SAFETY CLIMATE RESULTS

### 4.1 INTRODUCTION

The results from Section B of the managers / supervisors questionnaire are reported here, referenced to the four constructs described in Table 5 below. Each construct was designed to reflect a salient component of work place safety climate.

**Table 5. Summary of management safety climate scales**

<i>Factor/scale</i>	<i>Number of questions</i>	<i>Respective facet of safety climate</i>
Corporate Safety Climate	4	Profile and level of priority given to health and safety by the care home
Management Commitment	4	Level of priority and commitment to health and safety demonstrated by senior managers
Cultural Profile	2	The profile of health and safety and standards / norms of safety behaviour in the workplace
Risk Management Systems	5	The status of health and safety management systems for assessing and controlling risk

For each of the four safety management factors, results are expressed in terms of:

- The distribution of scores for the sample as a whole;
- The modal (most commonly occurring) descriptor for the entire sample;
- The mean score for the sample as a whole;
- Where sample sizes permit, tests of significance of differences between subdivisions of the sample are performed in order to formally test the strength of revealed relationships, referenced to a range of biographical sub-divisions of the sample, e.g. 'trained v untrained' etc.

### 4.2 CORPORATE SAFETY CLIMATE

Questions within this factor were designed to explore care home performance with reference to the following facets of Corporate Safety Climate:

- *Awareness* – relates to the level of corporate awareness of the need to address risks associated with manual handling;
- *Priority* – relates to the level of corporate priority placed upon the reduction of manual handling risks;
- *Resources* – relates to the level of resources made available for the management and control of manual handling risks;

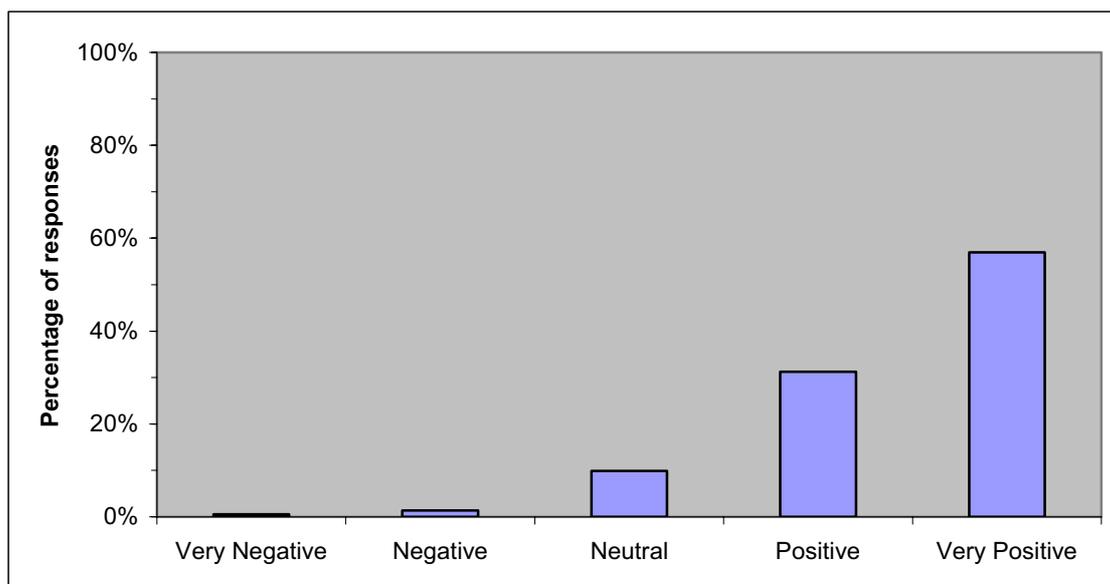
- *Initiatives* – relates to the level of corporate support for initiatives designed to reduce levels of risk associated with manual handling activity.

Table 6 provides a breakdown of the most common response (mode) and mean score for each question within this scale (undifferentiated sample).

**Table 6. Corporate Safety Climate, most common responses (N = 237)**

<i>Item</i>	<i>Modal value on scale</i>	<i>Mean (SD) score on scale</i>	<i>Most common response</i>
Q1. Awareness	5 (54.2%)	4.46 (0.65)	There is a high level of awareness in this care home regarding the need to assess and control manual handling risks.
Q2. Priority	5 (65.1%)	4.55 (0.71)	The care home sees the reduction of manual handling injuries as a high priority.
Q3. Resources	5 (43.7%)	4.21 (0.92)	Obtaining the necessary resources for conducting manual handling risk assessments, purchase of equipment which reduces risks from manual handling and staff training in safe handling practices is not a problem in this care home.
Q4. Initiatives	5 (62.4%)	4.46 (0.79)	There is an ongoing programme of initiatives designed to reduce levels of risk associated with manual handling at this site.

To provide a picture of the distribution of responses for this factor across the five scale anchors used in the questionnaire, the data from the four questions were aggregated, and are shown in Figure 9 as percentages of the total number of responses (941 responses from 237 care homes).



**Figure 9. Distribution of all responses for Corporate Safety Climate**

It may be observed that the majority of managers' responses are very positive; indicating that there is perceived to be a reasonably high degree of corporate commitment to reducing manual handling amongst participating care homes.

In order to explore the degree of homogeneity / variability within the managers' responses, tests of statistical differences were performed using one-way analysis of variance (ANOVA) and t-tests. Hence there was potential to explore the extent of variability present attributable to various demographic criteria.

#### **4.2.1 Corporate Safety Climate score by number of care workers on site**

One-way ANOVA was used to formally test for the presence of differences in ratings of Corporate Safety Climate (CSC) attributable to the number of care workers on site. No significant differences were observed.

#### **4.2.2 Corporate Safety Climate score by number of clients on site**

The ANOVA statistic was used to formally test for the presence of differences in CSC scores with respect to number of clients on site. No significant differences were observed.

#### **4.2.3 Corporate Safety Climate score by primary type of care provided at the care home**

A t-test was used to compare the scores for Corporate Safety Climate between those sites providing primarily residential care, and those providing primarily nursing care (the two main care types identified in the survey). Results showed that residential care homes scored significantly higher on the CSC scale than those providing nursing care ( $P < 0.05$ ).

#### **4.2.4 Corporate Safety Climate score by organisation that owns / runs the care home**

CSC ratings were tested using ANOVA to see if there was an effect attributable to the type of organisation owning the care home. (Data from the single home surveyed run by an NHS Trust were excluded). Results revealed no significant differences in the Corporate Safety Climate scores when grouped by the type of site owner.

#### **4.2.5 Corporate Safety Climate score by proportion of employees trained in manual handling**

The ANOVA statistic was used to formally test for the presence of differences in CSC scores with respect to proportion of employees trained in manual handling. Results showed significantly higher scores ( $P < 0.01$ ) at those sites where 81-100% of staff had been trained in comparison with those sites where 0-20% of staff were trained. The scores were not significantly different for the other training categories.

#### **4.2.6 Corporate Safety Climate score by risk assessment programme**

A t-test was used to compare the CSC scores for those sites that had developed a formal programme for risk assessment and those that had not. Results revealed that sites with a formal programme in place for conducting risk assessments scored significantly higher on Corporate Safety Climate ( $P < 0.01$ ) than those without.

### 4.3 MANAGEMENT COMMITMENT

Questions within this factor were designed to explore care home performance with reference to the following facets of Management Commitment (MC):

- *Insight and Understanding*: This relates to the level of management insight and understanding of the need for risk assessment;
- *Priority*: This relates to the level of management priority placed upon the need to control handling risks;
- *Involvement*: This relates to the level of management involvement in health and safety management;
- *Initiatives*: This relates to the level of management commitment to health and safety initiatives.

Table 7 provides a breakdown of the most common response (mode) and mean score for each question within this scale.

**Table 7. Management Commitment, most common responses (N = 233)**

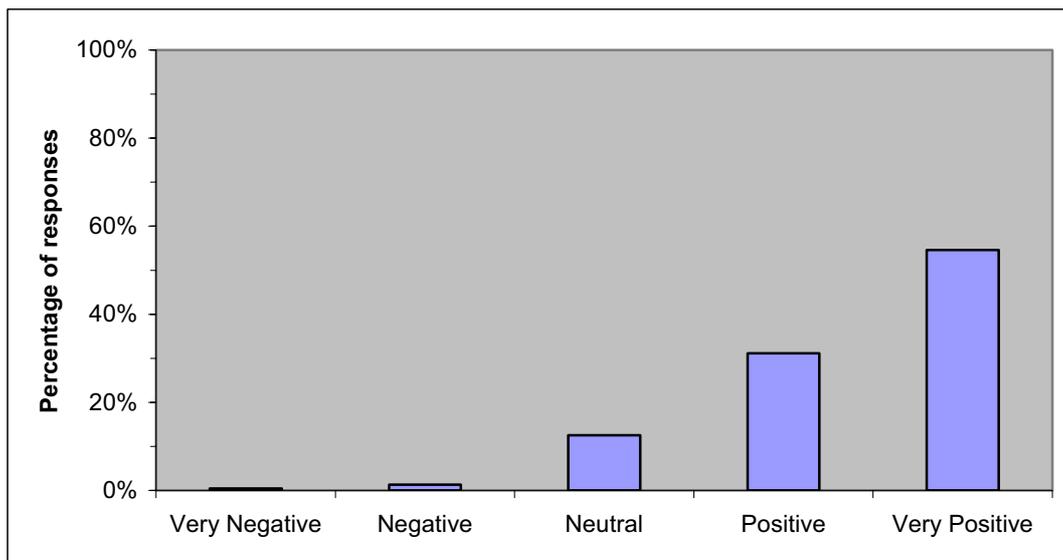
<i>Item</i>	<i>Modal value on scale</i>	<i>Mean (SD) score on scale</i>	<i>Most common response</i>
Q1. Insight & Understanding	5 (59.3%)	4.48 (0.74)	Senior management at this site have a detailed understanding of risk assessment and its role in health and safety management.
Q2. Priority	5 (60.2%)	4.53 (0.73)	Senior management at this site see the control of manual handling issues as a high priority.
Q3. Involvement	5 (44.8%)	4.29 (0.78)	Senior management at this site have adopted a leading role in setting up risk assessment systems at this site.
Q4. Initiatives	5 (49.4%)	4.26 (0.86)	Senior management at this site have played a leading role in health and safety initiatives and are keen to make the most of the opportunity to publicise and demonstrate this commitment to the workforce.

To provide a picture of the distribution of responses for this factor across the five scale anchors used in the questionnaire, the data from the four questions were aggregated, and are shown in Figure 10 as percentages of the total number of responses (943 responses from 243 care homes).

It is apparent that the majority of responses from managers are very positive indicating that there is perceived to be a high level of management commitment to addressing manual handling risks amongst participating care homes.

#### 4.3.1 Management Commitment score by number of care workers on site

ANOVA was used to formally test for differences in MC ratings attributable to the number of care workers on site. No significant differences were observed.



**Figure 10. Distribution of all responses for Management Commitment**

#### **4.3.2 Management Commitment score by number of clients on site**

The ANOVA statistic was used to formally test for the presence of differences in MC scores with respect to number of clients on site. No significant differences were observed.

#### **4.3.3 Management Commitment score by primary type of care provided at the care home**

Use of t-tests to compare MC scores between those sites providing nursing and residential care primarily revealed no significant differences.

#### **4.3.4 Management Commitment score by type of organisation that owns / runs the care home**

The ANOVA statistic was used to test for differences in MC scores with respect to the organisation that owns / runs the care home. Results showed that Local Authority run homes scored significantly higher than Charity owned homes ( $P < 0.05$ ). The scores for privately owned homes were not significantly different.

#### **4.3.5 Management Commitment score by proportion of employees trained in manual handling**

One-way ANOVA indicated no significant differences in MC scores with respect to the proportion of employees training in safe manual handling techniques.

#### **4.3.6 Management Commitment score by risk assessment programme**

Tests of differences were performed, using a t-test, to compare the MC scores for between those sites that had developed a formal programme for risk assessment and those that had not.

Results revealed that those sites with a formal programme for conducting risk assessments in place scored significantly higher on Management Commitment ( $P < 0.01$ ) than those without such a programme.

#### 4.4 CULTURAL PROFILE

Questions within this factor were designed to explore senior managers' perceptions of the 'Cultural Profile' (CP) of health and safety' with their care home.

- *Supervisory profile*: This relates to the emphasis that supervisory staff place on good manual handling practices;
- *Shop-floor profile*: This relates to the emphasis that shop-floor staff place on good manual handling practices.

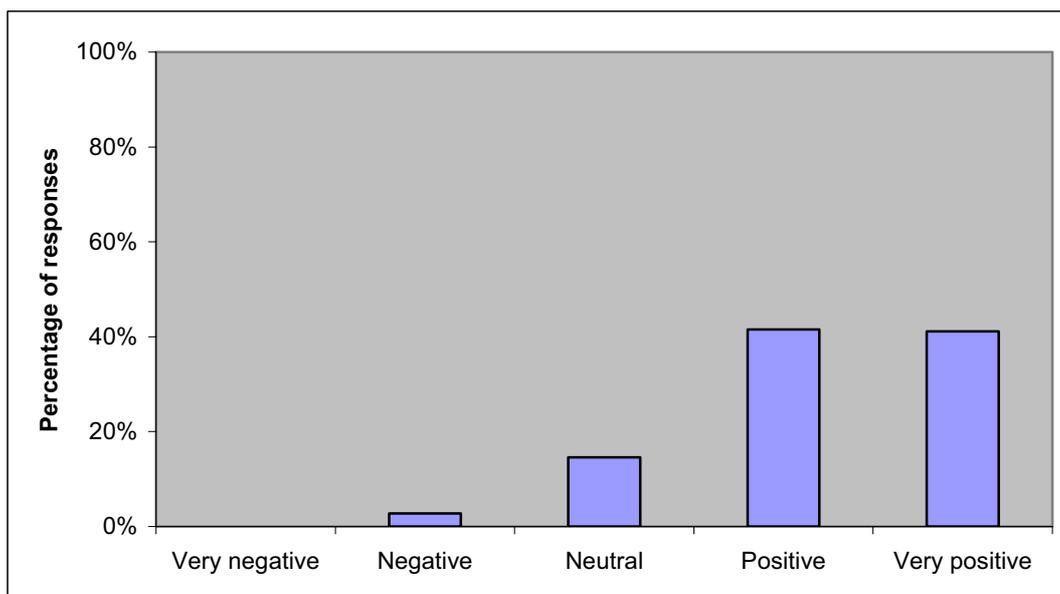
Table 8 shows the most common responses (mode) and mean scores for the two questions within the scale.

**Table 8. Cultural Profile, most common response (N = 237)**

<i>Item</i>	<i>Modal value on scale</i>	<i>Mean (SD) score on scale</i>	<i>Most common response</i>
Q1. Supervisory profile	5 (45.2%)	4.31 (0.75)	Care supervisors place a high level of priority on the control of manual handling risks, are proactive in encouraging care staff to adopt safe manual handling procedures and are consistent in their approach to the enforcement of safe practice with care staff.
Q2. Shop-floor profile	4 (41.1%)	4.11 (0.81)	Care staff exhibit a significant level of interest and concern regarding the need to adopt safe manual handling practices and demonstrate a willingness to comply with safe practice.

Responses were aggregated and are shown in Figure 11 as a percentage of the total sample (474 responses from 237 care homes). The scale anchors range from 'Very negative' to 'Very positive' to reflect the anchors used in the questionnaire.

It is apparent that senior managers perceive the cultural profile of manual handling safety performance (working practices) to be predominantly positive, indicating that it is believed that a fairly high level commitment to safe manual handling practices exists amongst operational staff within participating care homes.



**Figure 11. Distribution of all responses for Cultural Profile**

#### **4.4.1 Cultural Profile score by number of care workers on site**

One-way ANOVA was used to test for the presence of differences in ratings of CP attributable to the number of care workers on site. No significant differences were identified.

#### **4.4.2 Cultural Profile score by number of clients on site**

The ANOVA statistic was used to formally test for the presence of differences in CP scores with respect to number of clients on site. No significant differences were observed.

#### **4.4.3 Cultural Profile score by primary type of care provided at the care home**

Using t-tests to compare CP scores between those sites primarily providing nursing and primarily providing residential care revealed no significant differences.

#### **4.4.4 Cultural Profile score by organisation that owns / runs care home**

The ANOVA statistic was used to formally test for the presence of differences in CP scores with respect to the organisation that owns / runs the care home. No significant differences were identified.

#### **4.4.5 Cultural Profile score by proportion of employees trained in manual handling**

The ANOVA statistic indicated no significant differences in CP scores with respect to the proportion of employees trained in safe manual handling techniques.

#### **4.4.6 Cultural Profile score by risk assessment programme**

T-tests comparing CP scores between those sites that had developed a formal programme for risk assessment and those that had not, revealed no significant differences.

## 4.5 RISK MANAGEMENT SYSTEMS

Questions within this factor were designed to explore care home managers' perceptions of care home performance with reference to the following facets of health and safety Risk Management Systems.

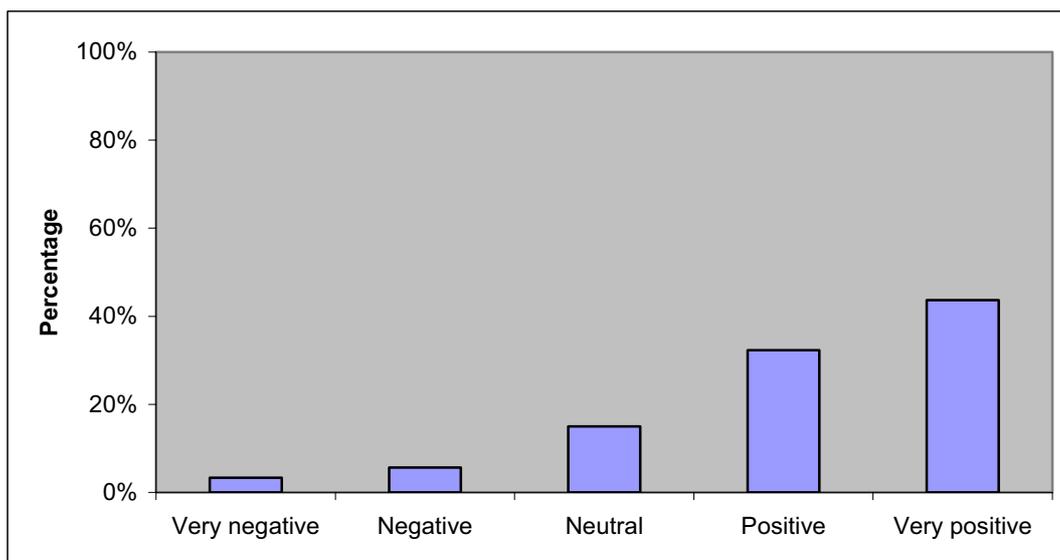
- *Assessment*: This reflects the stage which Manual Handling risk assessment procedures are at in terms of development / use;
- *Health Monitoring*: This relates to the level of formal procedures for monitoring ill-health resulting from manual handling;
- *Audit & Review*: This relates to the intention to audit and review procedures for Manual Handling risk assessments;
- *Conducting Assessments*: this relates to the stage of the program of manual handling risk assessment training;
- *Staff Involvement in Initiatives*: This relates to levels of involvement of shop-floor staff representatives in conducting manual handling risk assessments.

Table 9 provides a breakdown of the most common response (mode) and mean score for each question within this scale.

**Table 9. Risk Management Systems, most common response (N = 236)**

<i>Item</i>	<i>Modal value on scale</i>	<i>Mean (SD) score on scale</i>	<i>Most common response</i>
Q1. Assessment	5 (50.6%)	4.32 (0.81)	The majority of manual handling risk assessments have been completed and suitable control measures introduced
Q2. Health Monitoring	5 (42.3%)	3.92 (1.20)	Procedures for monitoring injuries and ill health associated with manual handling are well established and provide a clear picture of incidence and the types of activity being performed. This can be used to inform the selection of risk-reduction measures.
Q3. Audit & Review	5 (51.0%)	4.06 (1.25)	A formal system of periodic audit and review for risk assessment of manual handling procedures has been introduced, information from which is used to further enhance control and reduce risks.
Q4. Conducting Assessments	4 (45.6%)	4.17 (0.87)	An ongoing programme of manual handling risk assessment training has been introduced.
Q5. Staff Involvement in Initiatives	4 (39.8%)	3.92 (1.04)	There is an ongoing programme of involving care staff representatives in conducting manual handling risk assessments.

Responses were aggregated and are expressed in Figure 12 as a percentage of the total sample (1179 responses from 236 care homes). The scale anchors range from 'Very negative' to 'Very positive' to reflect the five scale anchors used in the questionnaire.



**Figure 12. Distribution of all responses for Risk Management Systems**

The majority of perceptions within the sample are positive, indicating that the managers that took part in the survey perceive that risk management systems have a high status within their care homes. However it should be noted that there are still a number of negative responses that relate to the lack of risk assessments within some care homes. As the guidance on the 1992 Manual Handling Operations Regulations (HSE, 2004) makes clear that formal risk assessments are the expectation in patient handling, this appears to indicate a compliance gap in a small number of care homes.

#### **4.5.1 Risk Management Systems score by number of care workers on site**

One-way ANOVA was used to test for the presence of differences in RMS ratings attributable to the number of care workers on site. No significant differences were observed.

#### **4.5.2 Risk Management Systems score by number of clients on site**

The ANOVA statistic was used to formally test for the presence of differences in RMS scores with respect to number of clients on site. No significant differences were observed.

#### **4.5.3 Risk Management Systems score by primary type of care provided at the care home**

Use of t-tests to compare RMS scores between those sites providing primarily nursing and primarily residential care revealed no significant differences.

#### **4.5.4 Risk Management Systems score by type of organisation that owns / runs the care home**

ANOVA was used to test for the presence of differences in RMS scores with respect to the organisation that owns / runs the care home. No significant differences were observed.

#### **4.5.5 Risk Management Systems score by proportion of employees trained in manual handling**

The ANOVA statistic indicated no significant differences in RMS scores with respect to proportion of employees training in safe manual handling techniques.

#### **4.5.6 Risk Management Systems score by risk assessment programme**

Tests of differences were performed, using t-tests, to compare the RMS scores between those sites that had developed a formal programme for risk assessment and those that had not.

Results revealed that those sites with a formal programme for conducting risk assessments scored significantly more positively for RMS ( $P < 0.01$ ) than those which did not.

#### **4.6 OVERALL COMPARISON OF MANAGERS' RESPONSES FOR THE FOUR SCALES**

Statistical tests were conducted to see whether any significant differences existed between the managers' scores on the four safety management factors. A one-way ANOVA was performed to compare the mean scores.

Results showed that for the sample as a whole, scores on both the Corporate Safety Climate and Management Commitment subscales were significantly *more positive* than those on the Cultural Profile and Risk Management Systems scales ( $P < 0.01$ ).

## 5 WORKFORCE QUESTIONNAIRE RESULTS

### 5.1 WORKFORCE RESPONSE RATE

A total of 890 questionnaires were returned to HSL by Wirthlin and sent on to IDEA for data entry. Data screening of the data file returned by IDEA revealed that a number of blank questionnaires had been returned. After checking the actual questionnaires, these entries were removed from the file, as were a small number, which were largely incomplete. This left a final sample size of 860 individuals, 96.6% of the questionnaires returned. Many of the remaining questionnaires had small amounts of data missing so actual sample sizes are given for all reported statistics. The 860 responses came from a total of 84 care homes, giving a mean of 10.2 questionnaires returned per care home. The number of responses received ranged from one to 28. 20.2% of care homes returned one to five questionnaires; 35.7% returned 6 to 10 questionnaires; 29.8% returned 11-15 questionnaires; and 14.3% returned 16 or more questionnaires.

### 5.2 'PERSONAL DETAILS' - GENERAL DEMOGRAPHIC STATISTICS

Questions 1 to 5 asked for data under the heading of 'Personal Details'. Descriptive statistics were calculated for the 860 respondents. Seven did not state their gender, but of those who did, 90.0% were female and 10.0% were male. Of 822 who gave a date of birth, ages ranged from 17 to 73 years, with a mean of 40.3 years and an SD of 13.3 years. Figure 13 shows the distribution of ages in 10-year age bands.

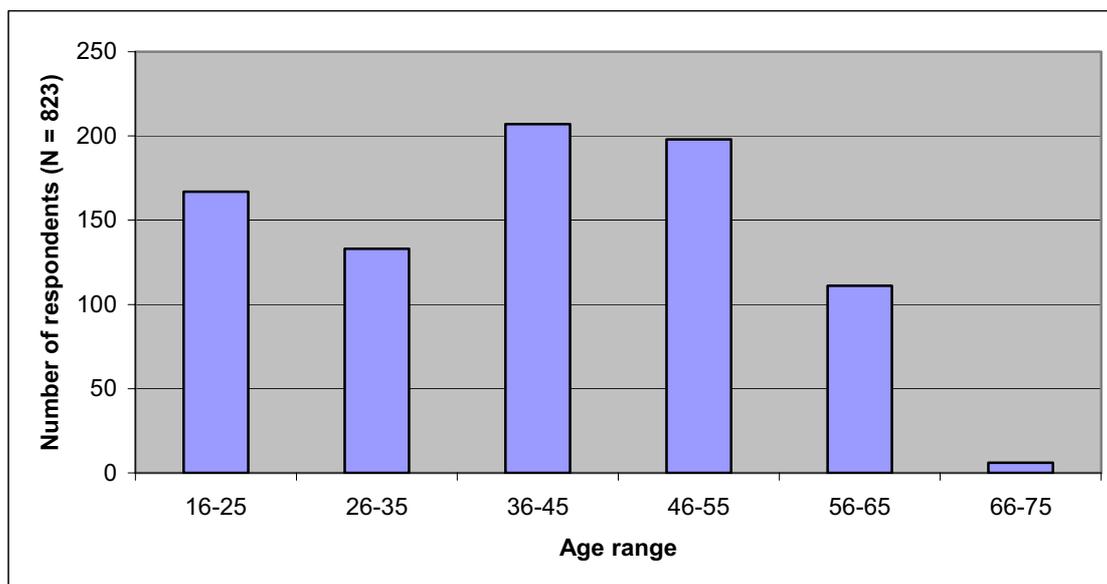
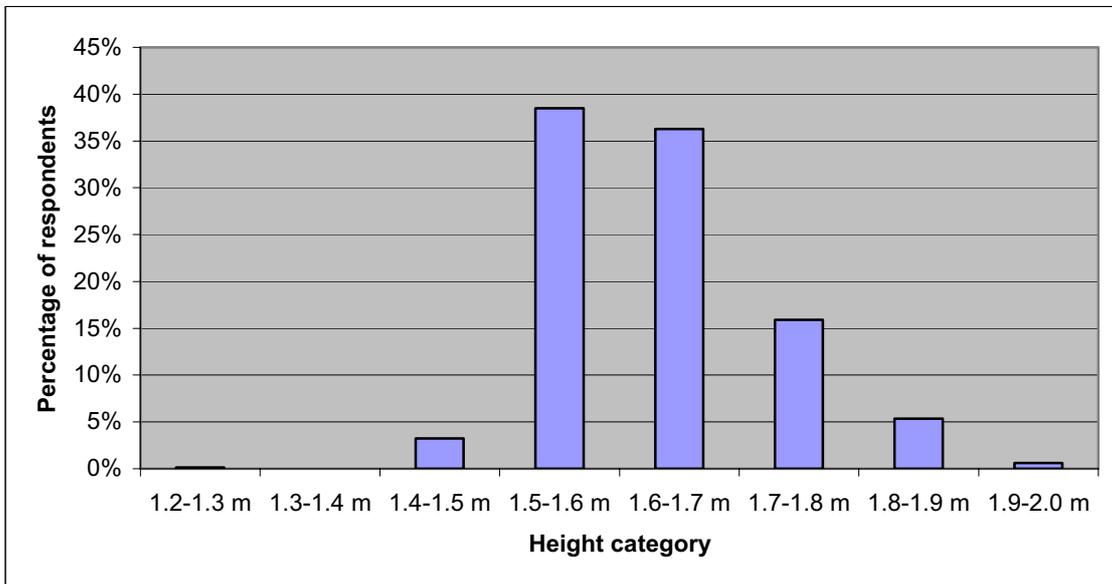


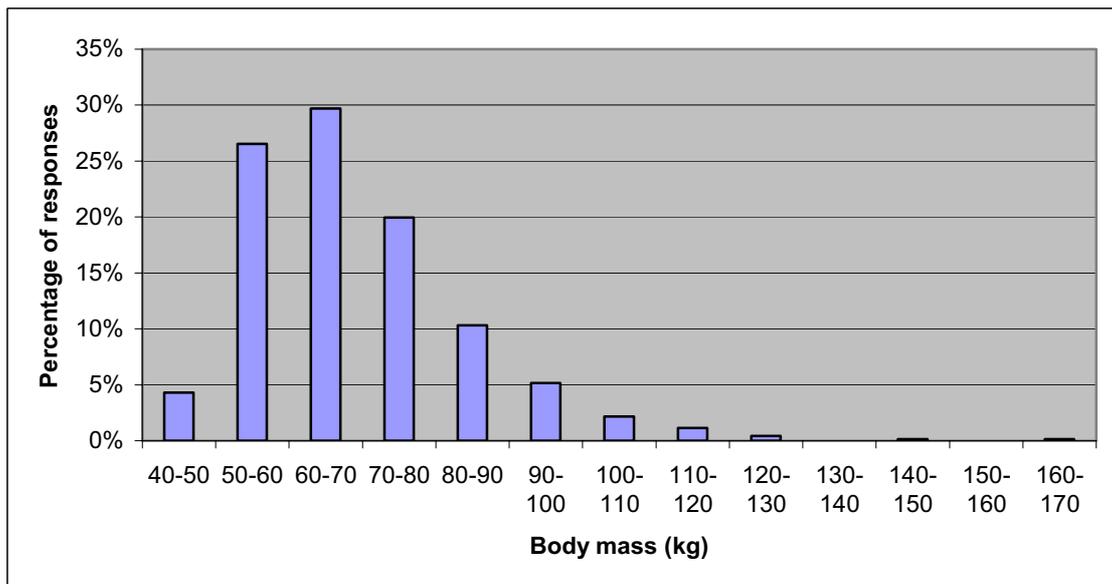
Figure 13. Age distribution of respondents

The self-reported weight of individual employees varied from 41.7 to 168 kg with a mean of 69.3 kg and an SD of 15.2 kg. Only 28, i.e. 4% gave their weight as in excess of 100 kg. Heights varied between 1.27 and 1.93 m with a mean of 1.64 m and an SD of 0.08 m (Figure 14). Only 81% of respondents gave their weight (Figure 15), and as only 93.5% gave their stature, Body Mass Index (BMI) (Figure 16) could be calculated for only 78.5% (N = 676). Personal sensitivities, even on an anonymous questionnaire, especially among a largely female sample, can be assumed to be behind some of the failures to respond to these questions. The BMI varied from 15.8 to 59.8 kg-m<sup>-2</sup>, with a mean of 25.9 and an SD of 5.1. A BMI of 20-25 is

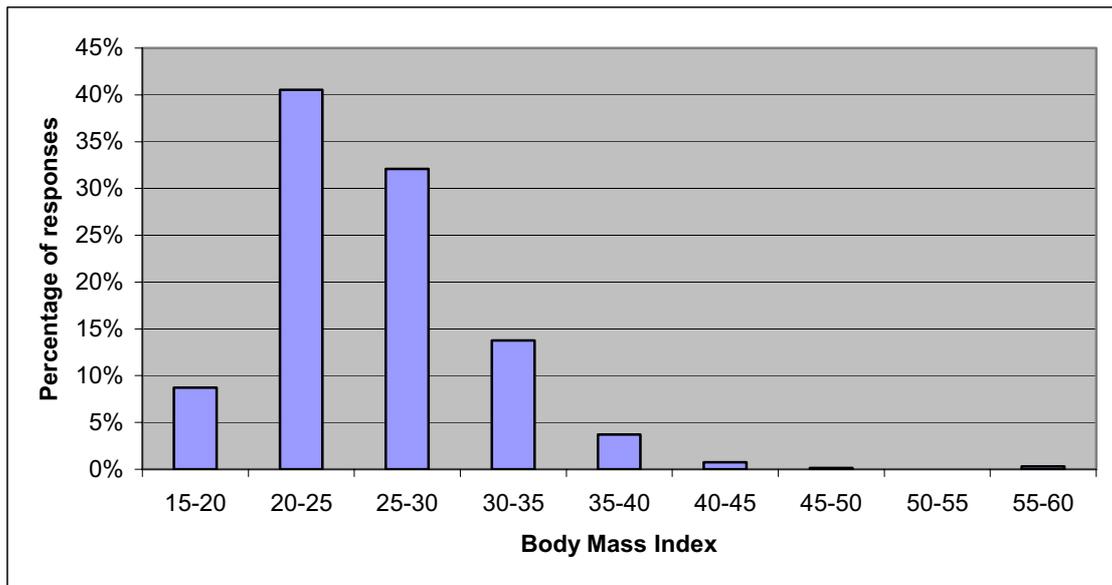
regarded as normal; from 25-30 is regarded as overweight; and a BMI > 30 leads to the individual being described as obese.



**Figure 14. Height distribution of respondents (N = 805)**

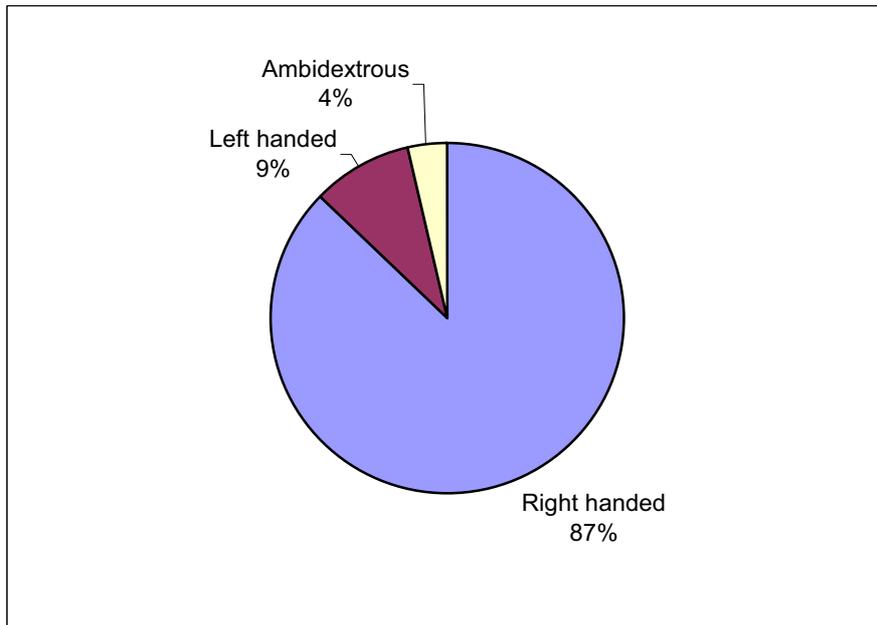


**Figure 15. Weight distribution of respondents (N = 697)**



**Figure 16. Body Mass Index distribution of respondents (N = 676)**

87% of respondents were right handed, 9% left-handed and 4% said they were able to use both hands equally, i.e., were ambidextrous (Figure 17). These figures are typical for the UK population (Pheasant, 1991).



**Figure 17. Handedness of respondents (N = 855)**

### 5.3 WORKPLACE STATISTICS

Under the heading ‘About your job’ questions 6 to 10 asked about the workplace and the worker’s experience and working hours. Also included in this section is an analysis of how the respondents were distributed geographically.

#### 5.3.1 Local Authority affiliation

Figure 18 shows how the respondents (N = 860) were spread across the Local Authorities in Wales. The uneven distribution reflects the fact that due to time constraints only the homes that responded to the managers’ questionnaire first were selected for the follow up distribution of the workforce questionnaire.

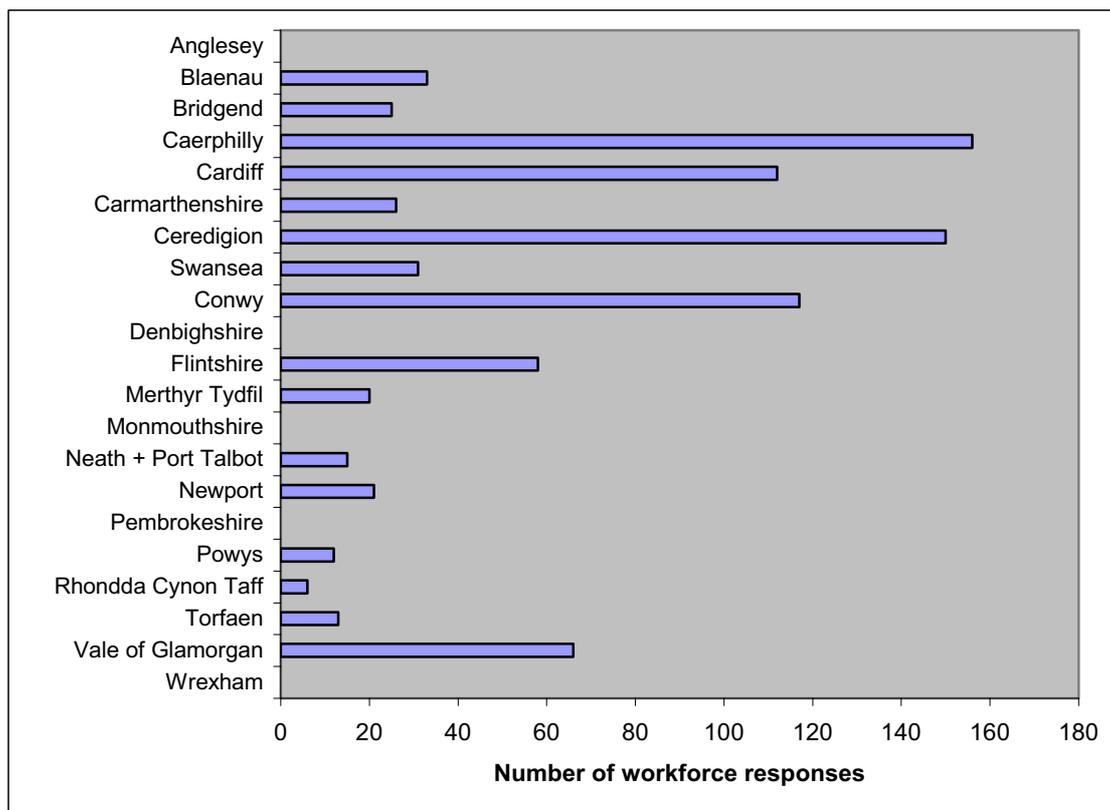
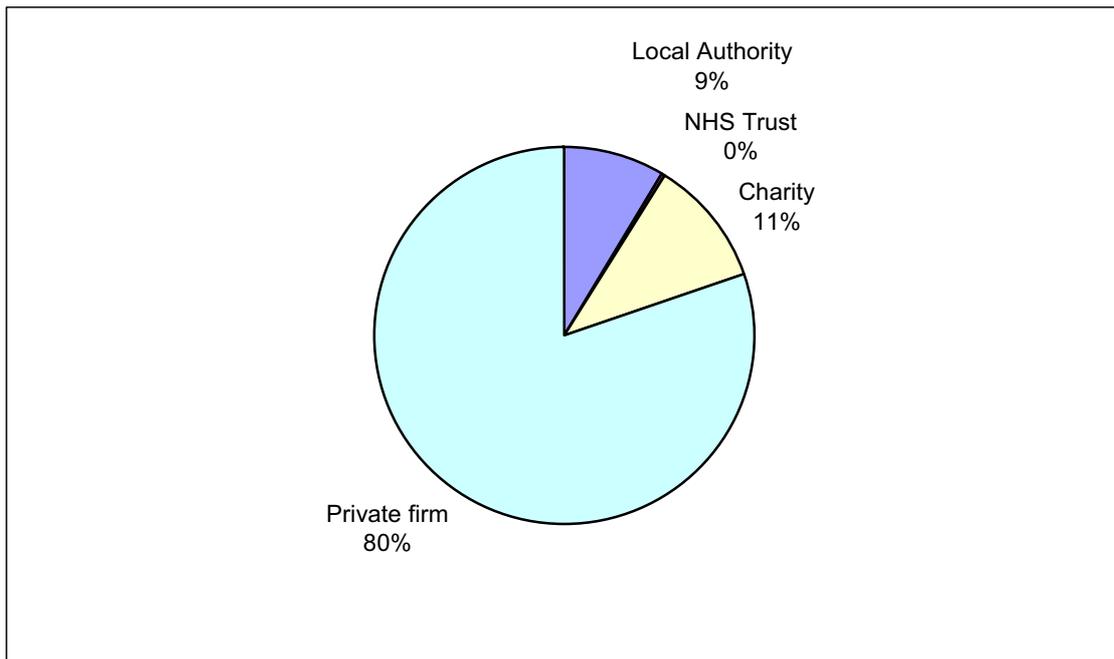


Figure 18. Workforce questionnaire respondents by Local Authority

#### 5.3.2 Ownership of the care home

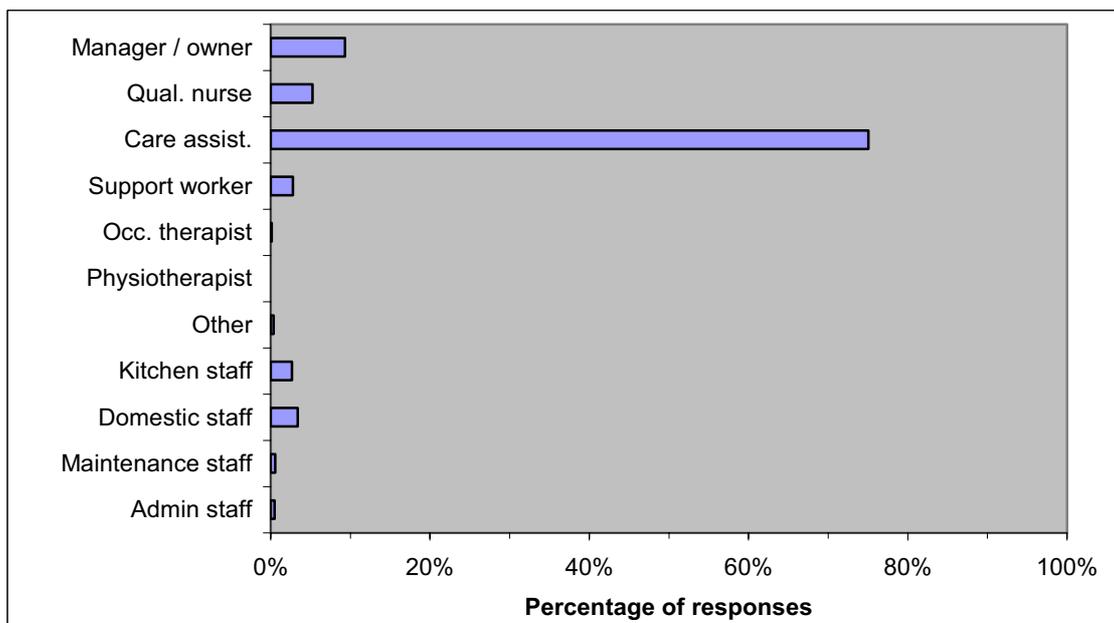
The responses to Question 6 on the numbers of respondents employed by different types of organisation are shown in Figure 19 (N = 845). Over 80% were employed by private care homes, with approximately equal numbers employed by Local Authorities (9%) and charities (11%).



**Figure 19. Organisations employing the respondents to the workforce questionnaire**

### 5.3.3 Job role

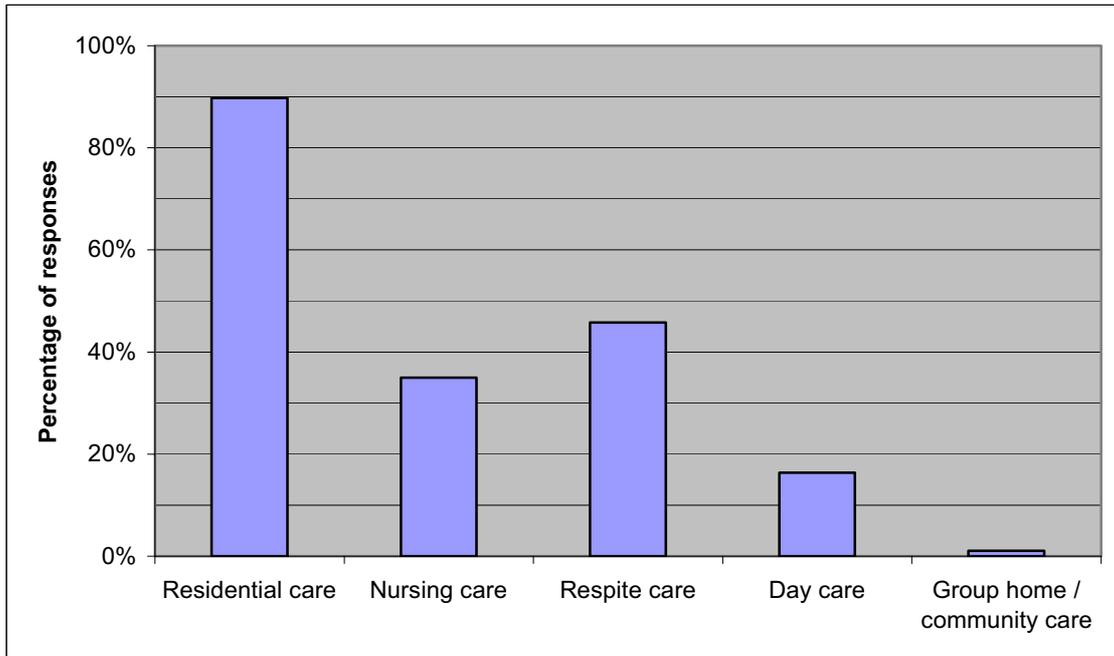
Figure 20 shows the distribution of job roles across the sample (N = 857) elicited by Question 9. It is apparent that the vast majority of respondents (75%) were care assistants. The next largest group were managers (9.3%), followed by qualified nurses (5.3%). It is worth noting that some managers are also qualified nurses and will often be involved in nursing or social / domestic care of residents besides management responsibilities.



**Figure 20. Jobs occupied by respondents to the workforce questionnaire**

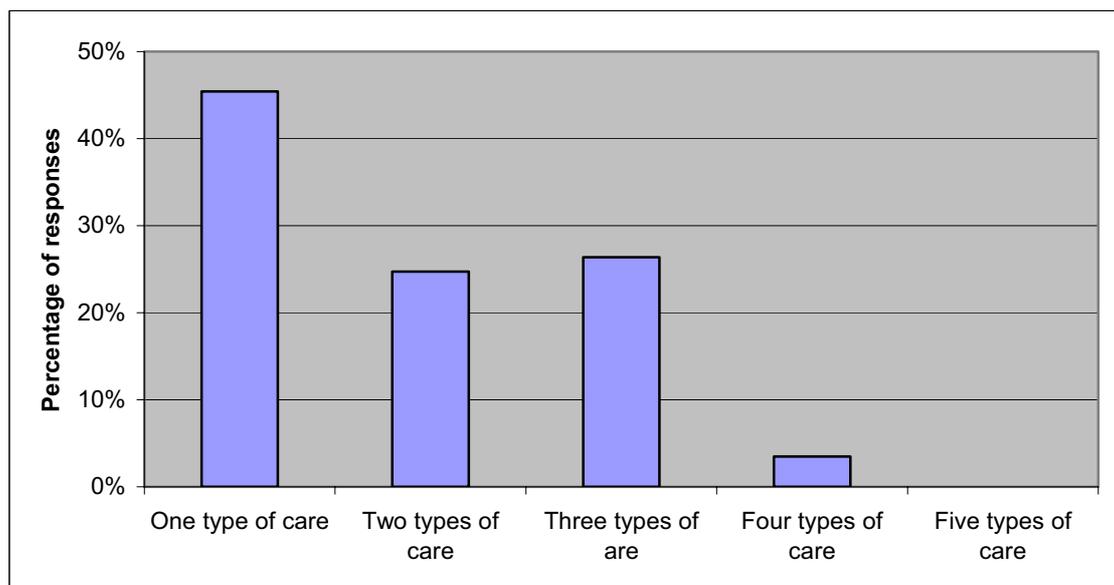
### 5.3.4 Types of care provided at the care homes

Question 7 asked about the types of care provided by the care home that the respondent was working at. Since some care homes provide more than one type of care, multiple answers were encouraged. Figure 21 shows the percentages of respondents who worked in homes providing the different types of care. All responses about the types of care provided at each home are given in the graph so the total exceeds 100%. It is apparent that almost all respondents (90%) worked in care homes providing residential care.



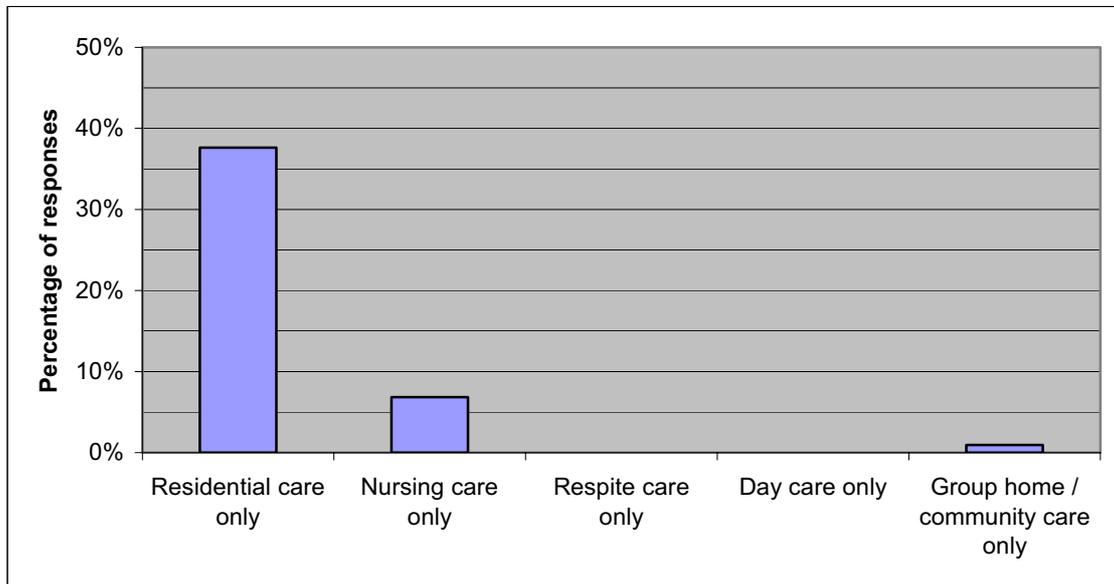
**Figure 21. Types of care provided by the homes respondents work in**

Figure 22 shows how respondents were distributed across care homes that provided different numbers of types of care.



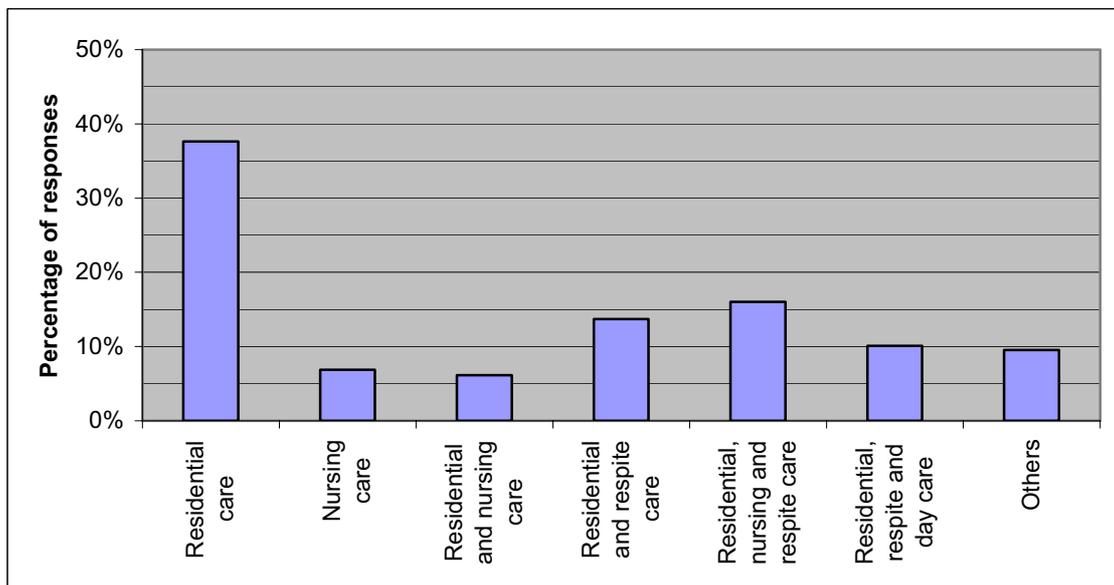
**Figure 22. Distribution of numbers of types of care provided by the care homes**

Figure 23 shows the percentages of respondents working in care homes that only provided a single type of care.



**Figure 23. Respondents working in homes providing only one type of care**

Figure 24 shows how the respondents were distributed across the major combinations of care provided by homes.

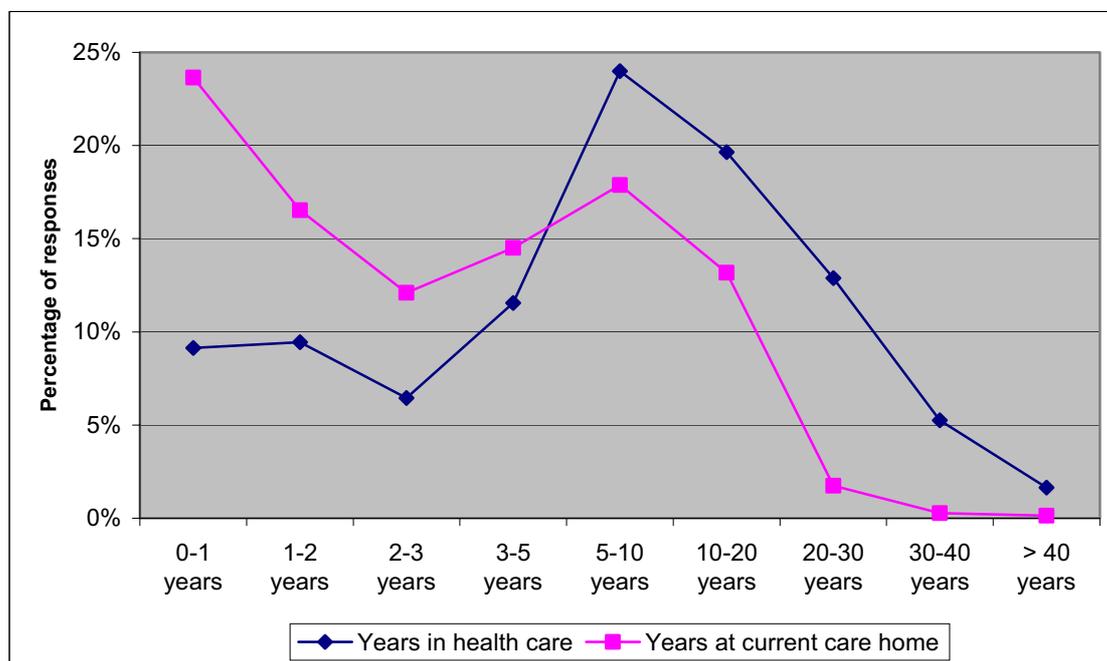


**Figure 24. Distribution of respondents across the major combinations of care provided**

### 5.3.5 Experience of working in health care

Question 8 asked when the respondent started working in health care and when they started working at the current care home. These dates were subtracted from the date of completion of the form to give a duration working in health care and a duration working in the current care

home. Both these figures were expressed in years. Figure 25 shows the distribution of experience of respondents in working in health care and in their current care homes.



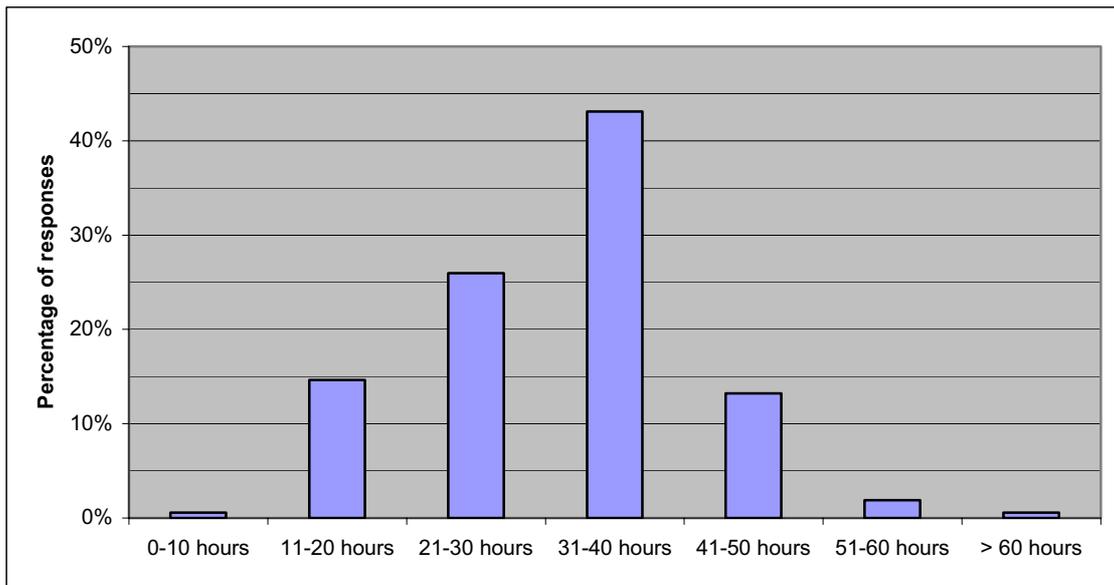
**Figure 25. Experience of staff in care homes**

The horizontal axis of Figure 25 is deliberately non-linear to show the distributions of values less than five years in more detail. Both distributions are non-normal with a high number reporting the shorter durations. For years working in health care (N = 667), the mean is 11.0 years with an SD of 10.6 years. For years working in the current care home (N = 774) the mean is less than half this at 4.8 years (SD 5.6 years). 33.6% of workers had less than five years experience in health care and 66.8% had less than five years experience in their current job. The graph shows that 9.1% had less than one year of experience in health care but that 23.7% had less than one year's experience in their current job. If length of service were constant, these figures would mean that the whole workforce would be replaced in 10.96 years and each care home would replace its entire staff in 4.2 years.

Overall, it is clear that while some care staff have many years of experience, this is a workforce that has a significant proportion of new entrants each year and there is a very high rate of turnover of staff in care homes. It is likely that the causes of the 'churn' of staff are complex, possibly related to the relatively low pay and status of much of the work.

### 5.3.6 Hours worked

Question 10 asked about the number of hours per week that the respondent worked in the current care home and separately in other care homes. Of the 847 who reported working hours, only 19 (2.2%) reported times working in a second care home. The mean time in the other care home was 21.5 hours per week (SD 14.1 hours), ranging from 8 to 60 hours. The mean time working in the first care home was 32.3 hours (SD 9.7 hours). As the number of second jobs was so small, the data for the total hours worked are reported without any attempt to split between first and other jobs. Figure 26 shows the distribution of total hours worked per week in care homes, grouped into 10-hour bands (N = 847). 84% of workers reported working less than 40 hours per week. The mean working week reported was 32.8 hours (SD 10.2 hours) with a range from 8 hours to 100 hours.



**Figure 26. Distribution of total hours worked per week**

It appears that many jobs in this sector are part time and that there is not a long hours culture. This part-time nature probably contributes to the high turnover of staff within the sector noted above. It must be borne in mind that the nature of providing care in care homes makes it inevitable that some staff work unsocial hours such as nights and weekends. This may also mean that care homes may make use of temporary or agency staff on occasion. However, the questionnaire did not include questions on patterns of working due to the complexity of the questions that would have been needed and the consequent difficulty of analysing the responses.

## 5.4 MANUAL HANDLING

Questions 11 to 14 of the Workforce Questionnaire, asked a series of questions about manual handling training and the availability and use of manual handling aids.

### 5.4.1 Manual handling training provision

Figure 27 details the training respondents had received in manual handling of patients. Question 11 asked whether respondents had *ever* received such training and Question 12 asked whether they had received this training or similar refresher training within the previous 12 months. Of 827 staff that responded to Question 11, 739 (89.4%) had received training at some point. 586 of 797 responders (73.5%) to Question 12 had received training in the previous 12 months. This suggests that both initial training and refresher training are widespread though not universal so does imply that there are some organisations that are not up to date with training.



**Figure 27. Lifetime and 12 month histories of manual handling training of staff**

Of the 88 individuals who reported that they had never received training, 25, i.e. 28% had been employed in health care for less than 12 months. Another 35 new starters had received training. The new starters who had received training had been working in health care for significantly ( $t = 2.05$ , 58 df,  $P < 0.05$ ) longer (mean 23.7 weeks) than those who had not yet received it (mean 16.0 weeks). A residual group of 7.5% of respondents had been employed for more than one year in health care, but had never been trained. These figures show that most new staff do eventually receive training, but it is not immediate on entry to working in care homes. However, staff employed on a casual or temporary basis are less likely to receive training, especially if it is normally carried out after a period in the job.

Further analysis showed that there were significant differences between jobs in the frequency of having received manual handling training ( $\chi^2 = 59.3$ , 5 df,  $P < 0.001$ ). 90.6% to 98.7% of care assistants, nurses and managers had received training but only 52.9% to 71.4% of kitchen staff, domestics and support workers had received it. This suggests that staff who are perceived to be less involved in patient handling are less likely to receive training in it. The fact that more than 50% of such staff reported having received training does show that there is an expectation that almost all staff in a care home may need to carry out manual handling on occasion.

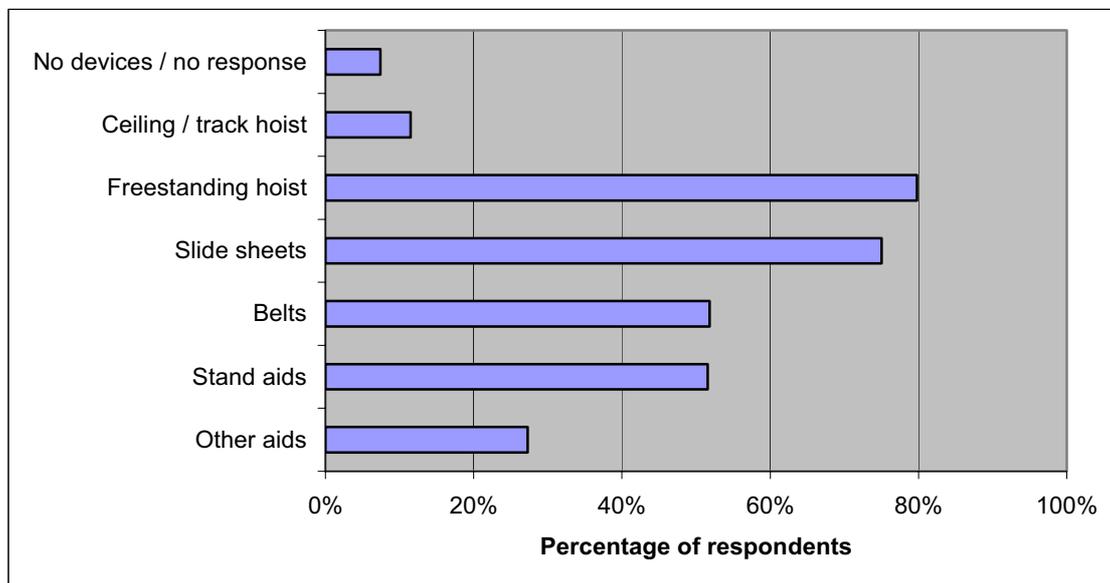
#### 5.4.2 Availability of handling aids/devices

Question 13 asked about the availability of various aids for handling patients. The list offered was:

- 1 Ceiling / track hoist
- 2 Freestanding hoist (i.e., mobile floor hoists)
- 3 Slide sheets
- 4 Belts (i.e., lifting belts)
- 5 Stand aids
- 6 Other aids

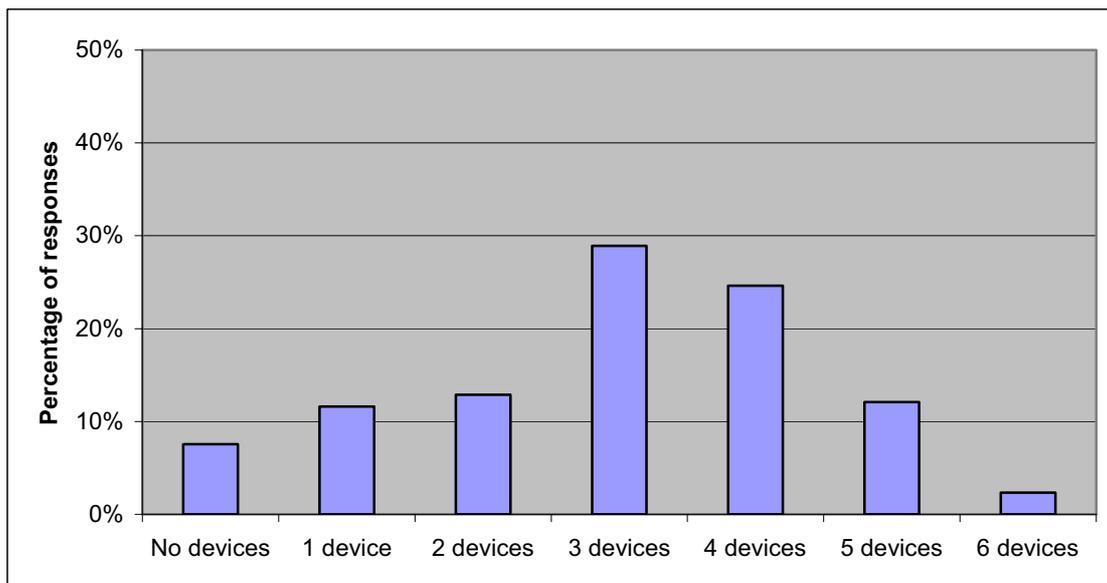
Figure 28 shows how many of the total of 860 respondents reported that each particular type of handling aid was available for their use when handling residents. 80% reported that they had freestanding hoists available but only 11% reported the availability of ceiling mounted / track hoists. Of the total respondents, 713 individuals (82.8%) reported the availability of at least one of these two types of hoist. 75% reported slide sheets as available and 52% reported the availability of belts and stand aids. Other, unspecified, aids were available to 27%.

It is clear from these figures that handling aids are in general use, with only 65 individuals of 860 (7.5%) failing to report any aids (some of which may be completion failures rather than lack of equipment). In particular, hoists and slide sheets are very widespread. There is a clear preponderance of freestanding hoists over fixed ceiling or track hoists. This is probably due to the greater flexibility of mobile hoists and the greater capital costs of installing fixed or tracked hoists.



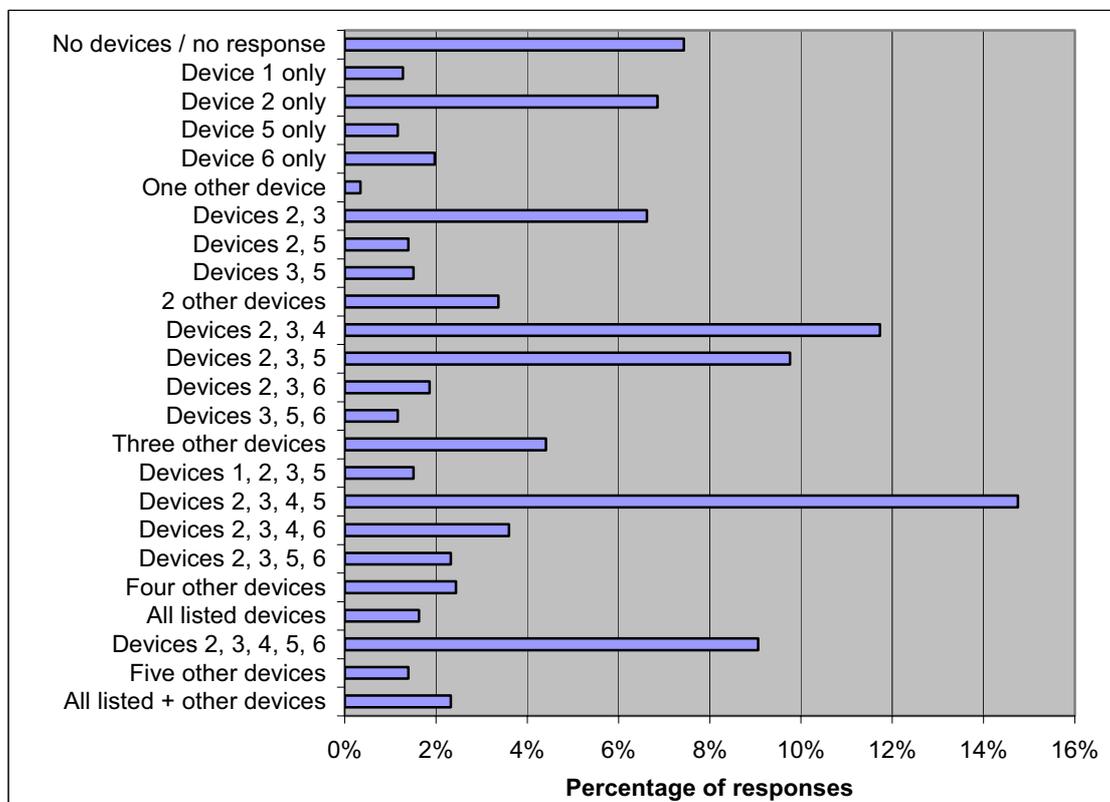
**Figure 28. Availability of handling devices to staff**

Figure 29 shows how many types of handling aid that respondents reported as being available for their use. Again, it is clear from this that handling aids are in widespread use, with 68% of respondents reporting the availability of three or more types of aid.

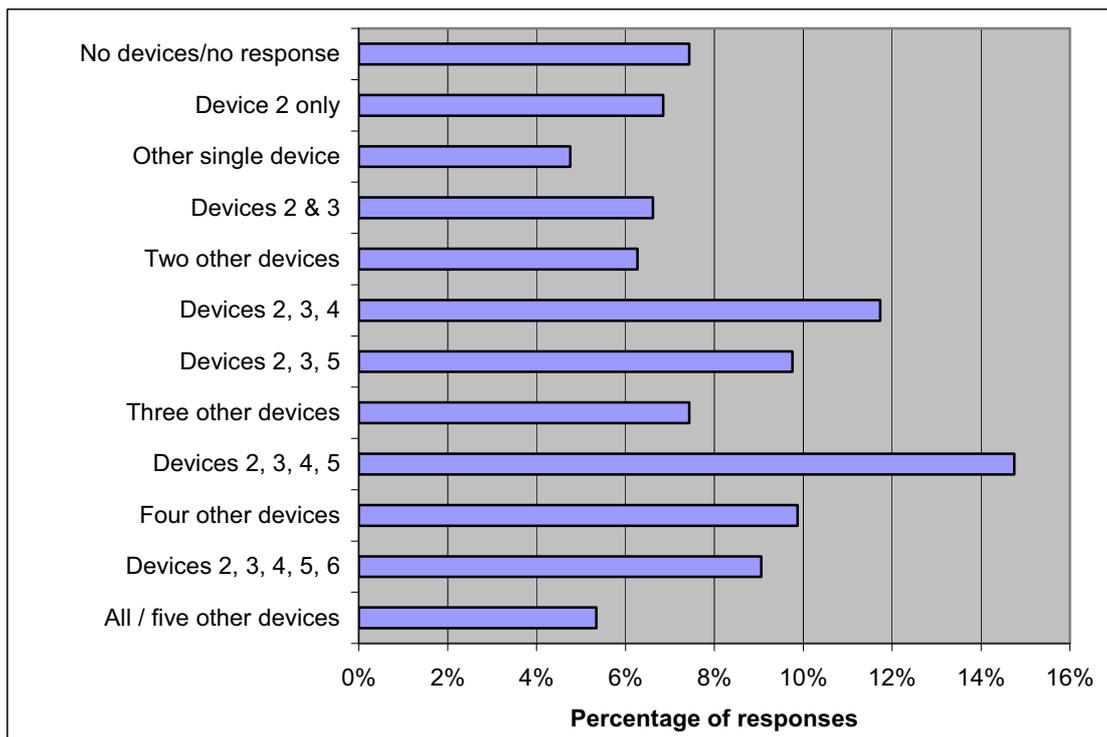


**Figure 29. Workforce reports of the number of types of handling aids available**

The following graphs use the numbers above to identify available devices and combinations of devices. Figure 30 shows the combinations of devices that were reported as available. Combinations of devices that fewer than 10 individuals reported were grouped within the numbers of devices reported. In Figure 31 further grouping was done of combinations that accounted for less than 5% of respondents, again, within the numbers of devices reported. This reduced the number of groups to 12, which is a suitable number for grouping other variables for checking if responses to other questions vary according to the types of handling aids available.



**Figure 30. Reported combinations of available handling aids**



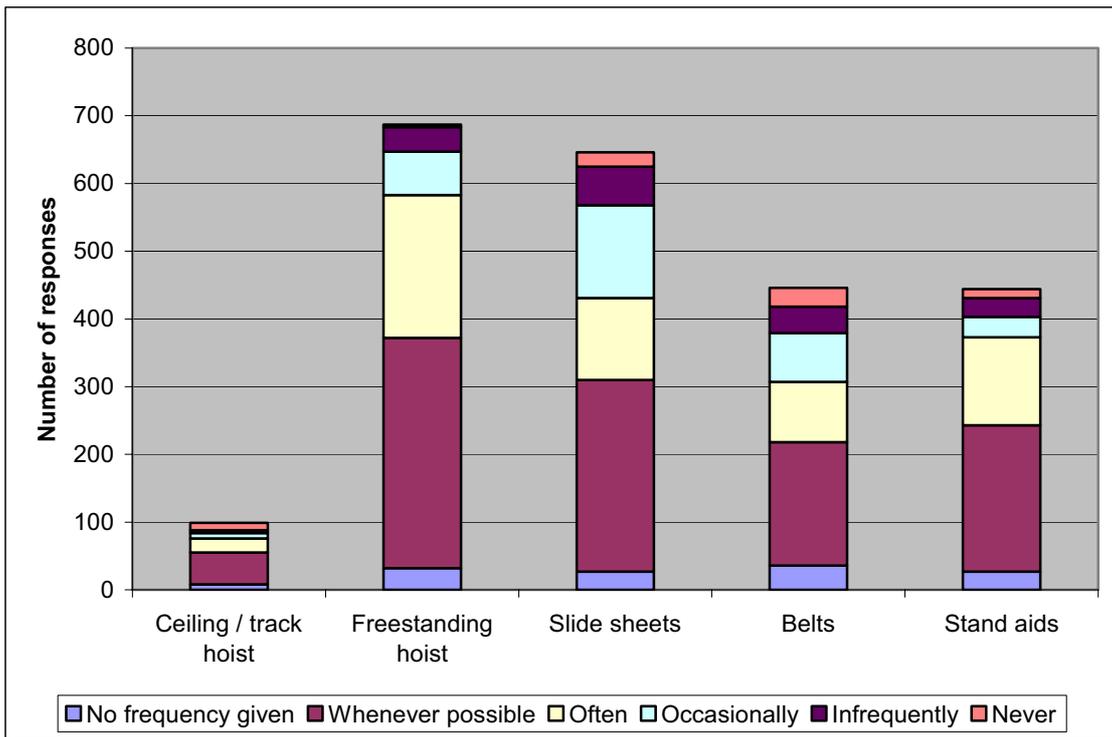
**Figure 31. Most frequently reported combinations of handling aids**

Where only a single type of aid was available, this was more likely to be a freestanding hoist (6.9%) than any other type of aid (4.8%). The single most common combination (14.8% of respondents) was Devices 2, 3, 4, and 5 (freestanding hoists, slide sheets, belts and stand aids). The other identified common combinations all include Device 2 (freestanding hoists) and Device 3 (slide sheets). As these are available to 80% and 75% respectively of respondents, this is not too surprising.

### 5.4.3 Frequency of use of handling aids

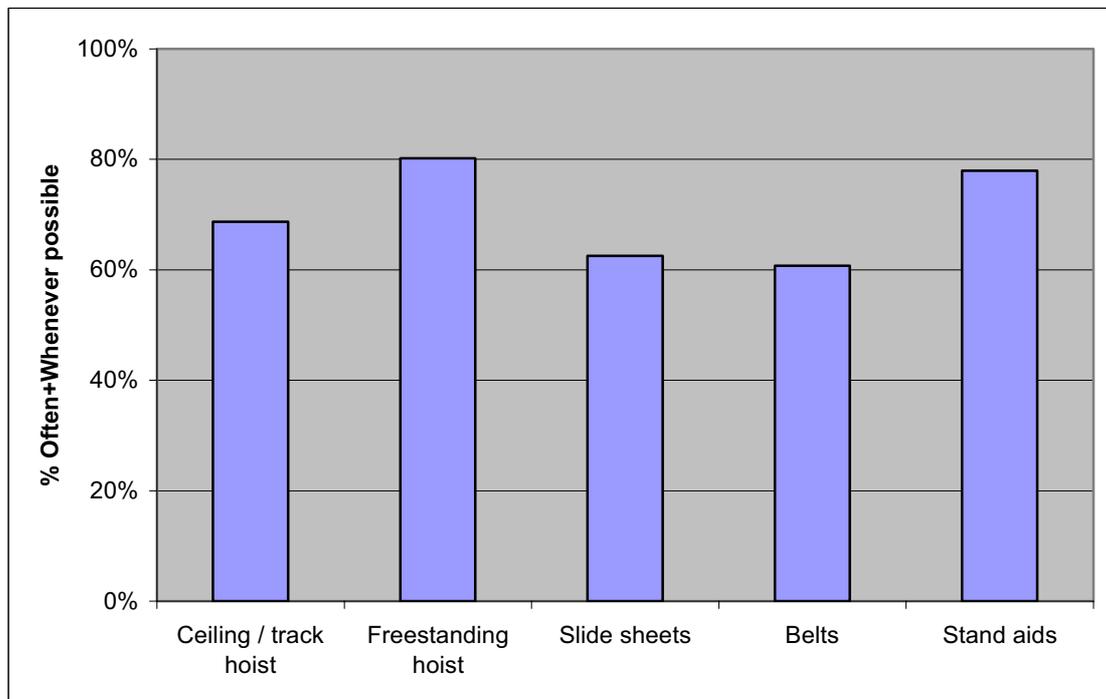
Question 14 asked respondents to rate how often staff in their care home made use of handling aids. This was on a five-point scale with anchors of ‘Whenever possible’, ‘Often’, ‘Occasionally’, ‘Infrequently’, and ‘Never’. Piloting of the questionnaire had shown that it is almost impossible to obtain responses giving accurate quantitative data on frequency of use of aids so this scale was used to provide an ordered sequence of categories of decreasing frequency. The question was focussed on ‘staff’ rather than the individual to allow for variation between individuals in the care home to be averaged out and to encourage honest responses by not focussing on the behaviour of the individual but on the overall group of staff.

Figure 32 shows the distribution of reports of frequency of use of available handling aids. This is after eliminating cases where the aid was not reported as available and hence (logically) was reported as never used.



**Figure 32. Reports of use of available patient handling aids**

Figure 33 shows the percentage of respondents with access to the various handling aids who reported that they were used in their care home ‘Whenever possible’ or ‘Often’. Percentages ranged from 61 to 80%. This shows that not only are handling aids widely available, but they are in widespread use.



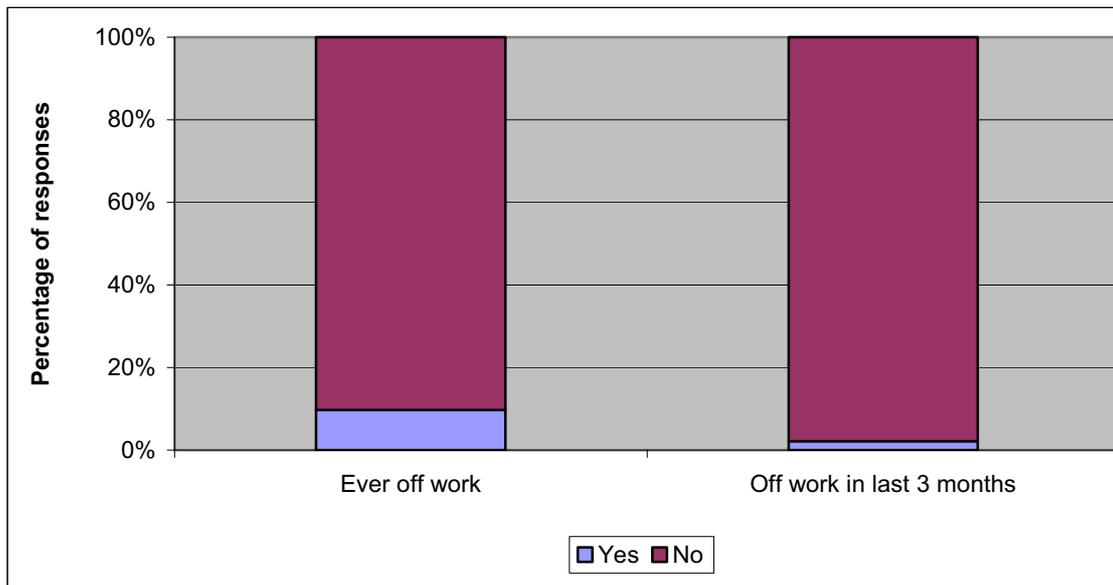
**Figure 33. Scale of frequent use of handling aids**

## 5.5 MUSCULOSKELETAL DISORDERS

Question 15 asked about time off work due to problems caused or made worse by manual handling. A section of the questionnaire consisted of the Nordic Musculoskeletal Questionnaire (NMQ), with an explanation at the bottom of the previous page. This section will outline the results from this segment of the questionnaire.

### 5.5.1 Lost time caused by manual handling

Figure 34 shows that 9.7% of respondents (83 of 853 respondents) reported ever having had time off work due to problems caused or made worse by manual handling. Only 2.1% (18 of 853) of respondents reported having had time off in the previous three months.



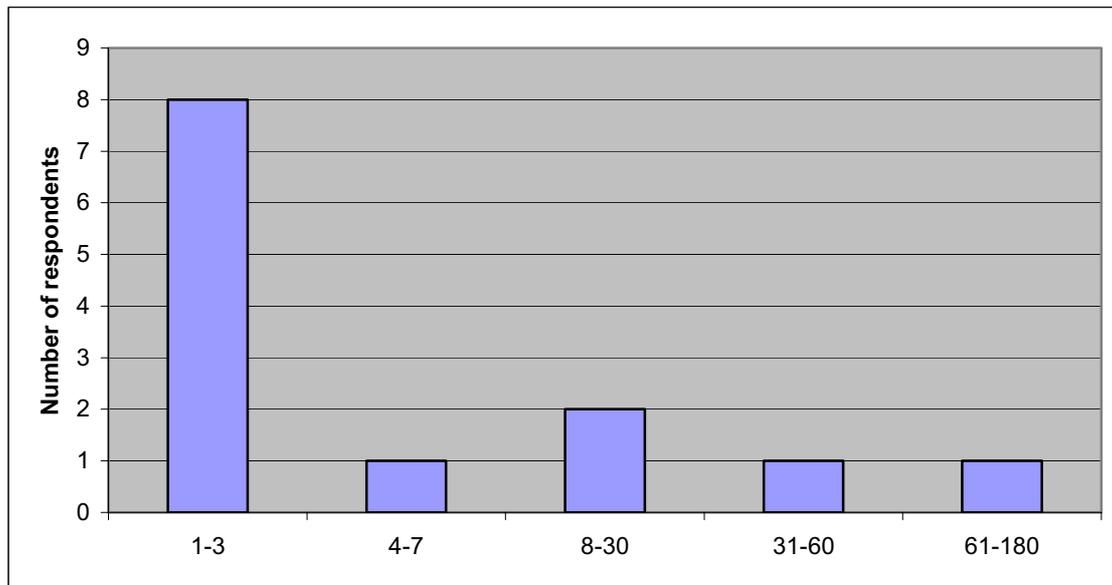
**Figure 34. Respondents reporting time off work due to problems caused or made worse by manual handling**

Data screening of the questions on work absence showed logical answers regarding personal histories of taking time off work due to problems associated with manual handling. Individuals who reported taking time off in the previous three months all reported that they had taken such time off at some point in their life. (It would be absurd to report never taking time off and then report time off in the previous three months).

However, the question about the duration of time off resulted in seven individuals giving a number of days absent despite explicitly reporting that they had not had time off in the previous three months. Four individuals reported time off at some previous point, but three reported that they had never had time off due to problems associated with manual handling. One individual noted that the absence was due to bereavement. It appears that subjects had not understood the question and were answering about any absence and therefore these cases were excluded from consideration.

Of the 18 individuals who reported time off in the previous three months, five did not give information about the duration. The distribution of the periods reported by the thirteen individuals who gave durations for their absences in the previous three months are reported in Figure 35. One case reported five months absence so this was taken as a period that included part of the three-month period. Eight of the thirteen cases reported three or less days absence so only five were reportable under RIDDOR 1995.

The failure of five individuals (nearly 40% of the total) to report the durations of the time they had off work illustrates the difficulties of collecting data about work absence. The question was deliberately restricted to the previous three months to reduce problems of recall but the failure of these individuals to answer the question on duration shows that the concerns discussed above about the ‘noisy’ nature of accident and absence data reflect a real problem. It is also likely that individuals will have failed to recall episodes of back pain in the previous three months and even more likely that they some will have failed to recall episodes which occurred more than three months previously.



**Figure 35. Reports of days absence in the previous 3 months due to problems caused or made worse by manual handling**

Due to recall problems and because it is known that back pain is often episodic, i.e. recurrent, (Eisen, 1999) simply multiplying three month prevalence by four will not give an accurate estimate of annual prevalence. Doing this calculation would give an estimate of the annual prevalence of 8.4%, which would lead to the absurd conclusion that the lifetime prevalence of 9.7% had occurred over less than 14 months.

### 5.5.2 Reports of musculoskeletal trouble

Table 10 and Figure 36 report the proportions of subjects reporting musculoskeletal trouble in the nine body areas of the NMQ section of the questionnaire. They also report disability rates for the previous three months for the nine body parts and, finally, whether the respondent considered that any trouble they had experienced in the previous three months had been caused or made worse by their work. ‘Trouble’ and ‘disability’ are defined on the questionnaire and the diagram accompanying it illustrates the body parts (Appendix 2). The original NMQ (Kuorinka *et al.*, 1987) and the HSE version of the short form (Dickinson *et al.*, 1992) used a twelve-month prevalence period. Based on evidence from Ørhede (1994), the decision was made for the NIOSH study (Pinder, 2001) to use a three-month prevalence period, so this period was also used for the current study. The three-month period allows the collection of data covering a period of time that is sufficiently short as to not create severe recall problems. The seven-day prevalence period allowed reporting of recent or current trouble and can be used as a high approximation of point prevalence, i.e., rates of current trouble.

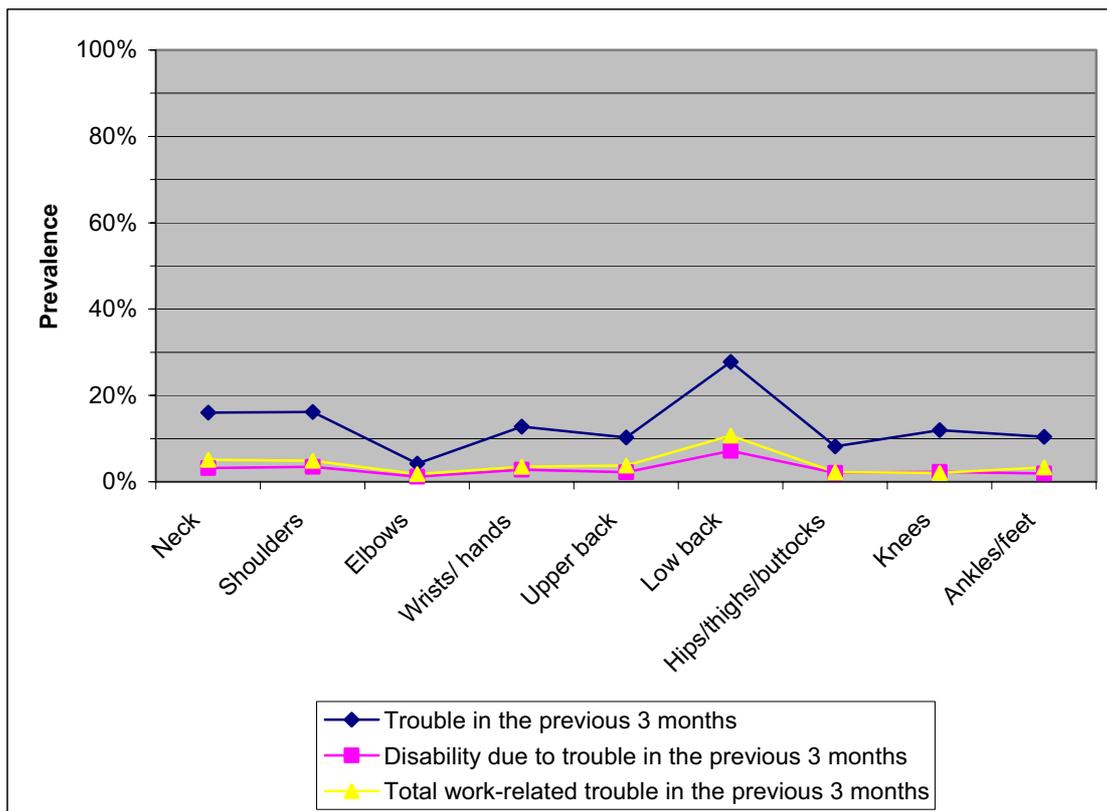
**Table 10. Reports of musculoskeletal trouble in nine body areas (N = 860)**

	<i>Trouble in the previous 3 months</i>	<i>Trouble in the previous 7 days</i>	<i>Disability due to trouble in the previous 3 months</i>	<i>Trouble in the previous 3 months caused by the job</i>	<i>Trouble in the previous 3 months made worse by the job</i>
<i>Neck</i>	16.0%	7.4%	3.2%	2.1%	3.0%
<i>Shoulders</i>	16.2%	7.9%	3.5%	2.4%	2.5%
<i>Elbows</i>	4.2%	2.0%	1.2%	0.5%	1.3%
<i>Wrists/hands</i>	12.8%	6.2%	2.8%	0.7%	2.8%
<i>Upper back</i>	10.3%	5.7%	2.2%	1.9%	1.9%
<i>Low back</i>	27.8%	13.2%	7.2%	3.9%	6.8%
<i>Hips/thighs/buttocks</i>	8.2%	4.0%	2.1%	0.7%	1.5%
<i>Knees</i>	12.0%	5.6%	2.3%	0.4%	1.7%
<i>Ankles/feet</i>	10.4%	5.1%	1.9%	0.5%	2.8%

The most common site for reporting trouble in the previous three months was the low back at 28%, followed by the neck and shoulders at 16%. Prevalence rates in the knees, wrists/hands, ankles/feet and the upper back were in the range of 10-12%. Hips/thighs/buttocks and elbows were both below 10%. Seven-day prevalences, while naturally lower, showed the same patterns, with the most common site again being the low back at 13.2%. These rates are lower than those found in a varied group of industrial workers from the NIOSH project (Table 11 below) where there was a maximum prevalence of 46% in the low back, followed by the wrists / hands at 32% and the neck at 30% and the shoulders at 29%. They are also far lower than the reports from a group of podiatrists (Table 12 below), 71% of whom reported low back trouble in the previous three months.

The greatest level of disability in care staff was caused by trouble in the low back but this was only 7.2% of staff. These low reporting rates are consistent with the responses reported from the question about time off work due to problems caused or made worse by manual handling, where only 2.1% reported having taken time off work in the previous three months.

The greatest rate of reporting problems as work-related was in the low back, where 10.7% of respondents indicated that their low back trouble was either caused or made worse by work. At the other end of the scale, only 1.8% of the 860 care staff reported that their elbow problems were work-related.



**Figure 36. Three month prevalences of trouble, disability and work-relatedness**

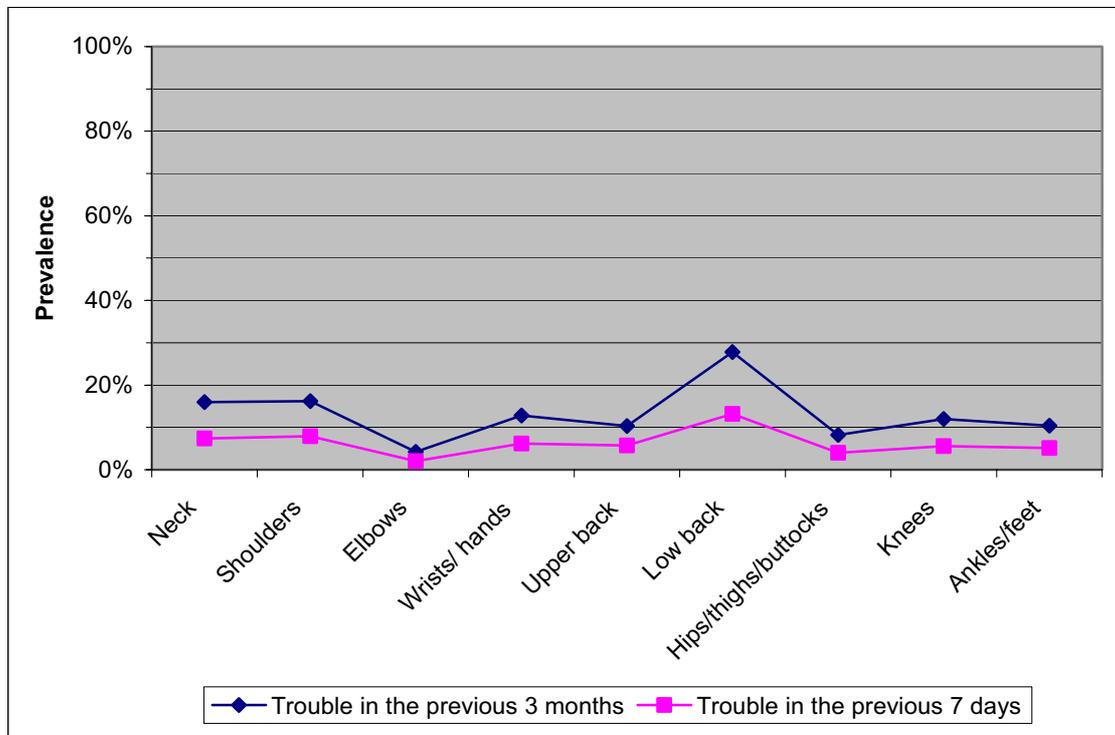
Figure 36 shows absolute rates of reports of trouble in the previous three months and seven days. Table 11 and Figure 37 show rates of reports of trouble in the previous seven days, of disability in the previous three months and of reports of the work-relatedness of the trouble relative to reports of trouble in the previous three months.

These results show a consistent pattern across body parts of weekly trouble varying between 46.2% and 55.3% of three-monthly trouble. The mean across body parts was 48.6%. The implication is that the episodic nature and short duration of much musculoskeletal trouble leads to respondents reporting weekly prevalences of musculoskeletal trouble that are approximately 50% of the three-monthly rates. In other words, and for example, though 28% of the total sample reported having had trouble in the low back in the previous three months, for 53% of these 230 individuals this problem had not occurred in the previous week. Therefore, they had experienced low back trouble in the relatively recent past but it had got better.

Disability varied across body parts between 18.6% and 29.4% of three-monthly trouble, with a mean of 22.5%. The implication is that 78.5% of cases of musculoskeletal trouble suffered in the previous three months were insufficiently severe to affect the respondents' normal activities. It must be noted that 'disability' in this context refers to affecting normal activities and does not equate to time off work. Such relative rates of seven-day trouble and disability are consistent with the results of previous HSE surveys using the NMQ (Dickinson, 1998).

**Table 11. Reports of 7 day trouble, disability and work-relatedness relative to reports of trouble in the previous 3 months**

	<i>Trouble in the previous 3 months (N)</i>	<i>Trouble in the previous 7 days</i>	<i>Disability</i>	<i>Trouble caused by work</i>	<i>Trouble made worse by work</i>	<i>Caused: made worse ratio</i>
<i>Neck</i>	132	46.2%	19.7%	12.9%	18.9%	0.68
<i>Shoulders</i>	134	48.5%	21.6%	14.9%	15.7%	0.95
<i>Elbows</i>	34	47.1%	29.4%	11.8%	32.4%	0.36
<i>Wrists/hands</i>	105	48.6%	21.4%	5.7%	21.9%	0.26
<i>Upper back</i>	85	55.3%	21.2%	18.8%	18.8%	1.00
<i>Low back</i>	230	47.0%	25.7%	13.9%	24.3%	0.57
<i>Hips/thighs/buttocks</i>	67	49.3%	25.4%	9.0%	17.9%	0.50
<i>Knees</i>	99	46.5%	19.2%	3.0%	14.1%	0.21
<i>Ankles/feet</i>	86	48.8%	18.6%	4.7%	26.7%	0.17



**Figure 37. Three month and seven day prevalence of musculoskeletal trouble**

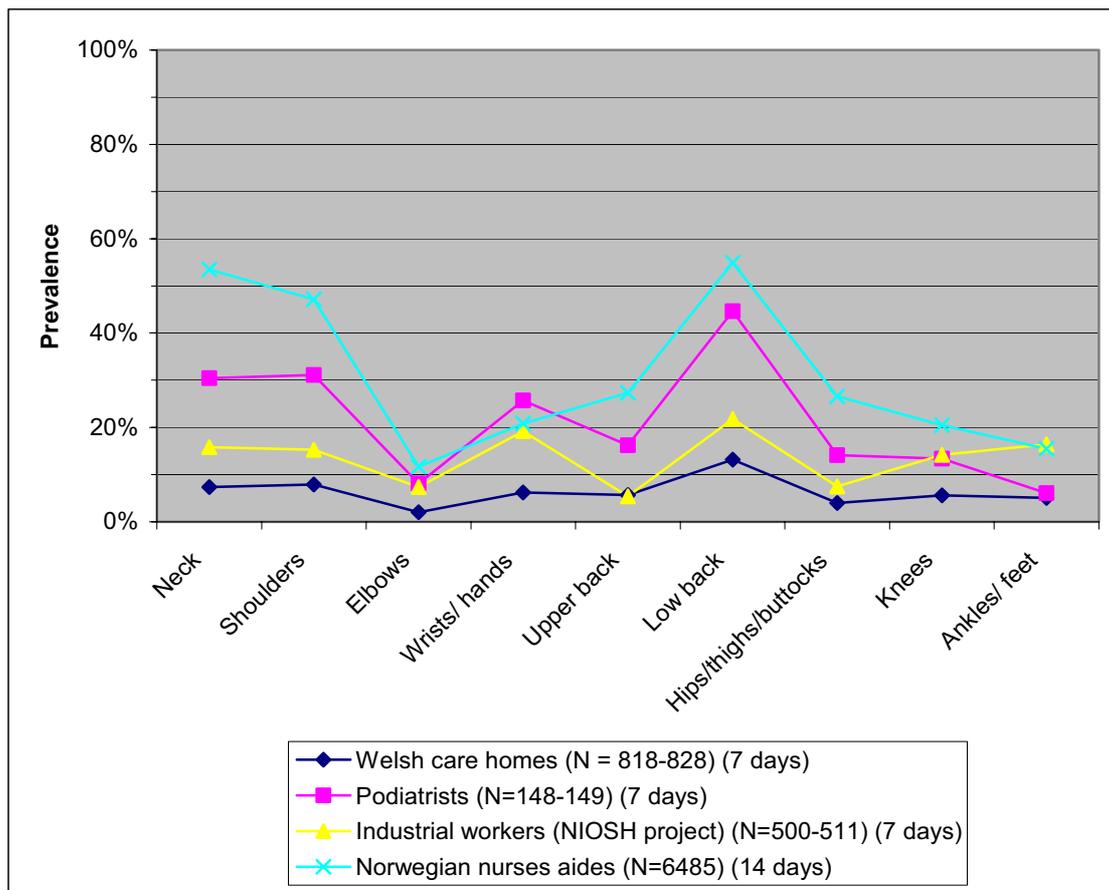
The data on work-relatedness of the trouble shows considerable variation between body parts, particularly in the caused: made worse ratio. As different body parts are exposed to different stresses and risk factors for the development of MSDs, pre-existing conditions or problems such as arthritis may be exacerbated by work at different rates in different parts of the body. The caused: made worse ratio varied between 0.17 in the ankles/feet and 1.00 in the upper back. This implies that working in care homes exacerbates problems in the ankles and feet six times more than it causes them, but is equally likely to exacerbate problems in the upper back as to cause them.

Table 12 compares the prevalences of trouble for the three month and seven day periods with other groups surveyed by HSL using the same questionnaire (Pinder, 2004, Lee and Jones, 2004). Figure 38 displays the comparisons for seven-day prevalences graphically, and also includes data from a survey of Norwegian nurses' aides using a 14-day prevalence period (Eriksen, 2003). The care home data reveals prevalence rates very much lower than those obtained for podiatrists and industrial workers.

Detailed analysis of the work tasks of the three samples would permit the drawing of more specific conclusions from the comparisons, but such data were not collected from care homes. However, it is worth noting that the pattern of prevalences in Figure 39 are largely consistent with the podiatrists having the highest rates, the industrial workers the second highest rates and the care staff the lowest rates. The only exceptions to this are for the upper back where the industrial workers have a slightly lower rate than the care staff, and the knees and ankles/feet where the industrial workers have a higher rate than the podiatrists.

**Table 12. Comparison of reports of musculoskeletal trouble with results of previous HSL surveys of other occupational groups**

	<i>Welsh care homes (N = 818-828)</i>		<i>UK Podiatrists (N = 148-149)</i>		<i>UK industrial workers (NIOSH project) (N = 500-511)</i>	
	<i>3 months trouble</i>	<i>7 days trouble</i>	<i>3 months trouble</i>	<i>7 days trouble</i>	<i>3 months trouble</i>	<i>7 days trouble</i>
<i>Neck</i>	16.0%	7.4%	54.4%	30.4%	29.6%	15.8%
<i>Shoulders</i>	16.2%	7.9%	47.7%	31.1%	28.5%	15.3%
<i>Elbows</i>	4.2%	2.0%	10.7%	8.1%	15.1%	7.4%
<i>Wrists/ hands</i>	12.8%	6.2%	47.7%	25.7%	31.7%	19.2%
<i>Upper back</i>	10.3%	5.7%	30.2%	16.2%	12.4%	5.4%
<i>Low back</i>	27.8%	13.2%	71.1%	44.6%	43.6%	21.8%
<i>Hips/thighs/ buttocks</i>	8.2%	4.0%	18.8%	14.1%	13.6%	7.5%
<i>Knees</i>	12.0%	5.6%	32.2%	13.4%	23.5%	14.2%
<i>Ankles/ feet</i>	10.4%	5.1%	11.4%	6.1%	22.2%	16.4%



**Figure 38. Prevalence of 7 / 14 day trouble in different studies**

When comparing these three groups it is worth noting that the podiatrists are a homogenous group drawn from a single profession. The care staff form a largely homogenous group with 75% being care assistants and 15% managers and/or qualified nurses. The industrial workers are a deliberately heterogeneous group who were all involved in regular manual handling as part of their jobs, but with a wide range of demands, from very light to very heavy.

Table 13 below compares the results of this study with the results of the study of Norwegian nurses' aides (Eriksen, 2003). This used a version of the NMQ to collect prevalence data for musculoskeletal pain experienced by nurses' aides in Norway. These are trained staff who are 'the main providers of practical patient care' but are not registered nurses. Usable questionnaire responses were obtained from 6485 nurses' aides who were members of a trade union that represents the majority of such staff. The sample was also subdivided by service sector and included 2750 working in nursing homes and 640 working in old people's homes.

The group working in nursing homes had a greater prevalence of low back pain than all other subgroups. For nursing homes the figure was 59.0%, for care homes the figure was 57.8%. Both of these figures are outside the 95% confidence interval for the whole sample (54.9% mean, 95% CI 53.7%-56.1%). However, a simple comparison is not possible between the subgroup figures and the current survey due to the complexity of the types of care that different homes provide. Therefore comparisons are made with the whole Norwegian sample, which will have the effect of slightly reducing the differences between the two studies as the specific subgroups have prevalence rates which are up to 4.1% greater.

**Table 13. Comparison with nurses' aides of reports of musculoskeletal trouble**

	<i>Welsh care homes (N = 818-828)</i>		<i>Norwegian nurses' aides: 14 days trouble</i>			
	<i>3 months trouble</i>	<i>7 days trouble</i>	<i>Whole sample (N = 6482)</i>	<i>95% CI</i>	<i>Nursing homes (N = 2750)</i>	<i>Old peoples' homes (N = 640)</i>
<i>Neck</i>	16.0%	7.4%	53.5%	52.3-54.7%	54.0%	58.6%
<i>Shoulders</i>	16.2%	7.9%	47.1%	45.9-48.3%	51.2%	50.5%
<i>Elbows</i>	4.2%	2.0%	11.7%	10.9-12.5%	13.0%	15.2%
<i>Wrists/ hands</i>	12.8%	6.2%	20.8%	19.8-21.8%	23.5%	22.7%
<i>Upper back</i>	10.3%	5.7%	27.3%	26.2-28.4%	28.1%	30.3%
<i>Low back</i>	27.8%	13.2%	54.9%	53.7-56.1%	59.0%	57.8%
<i>Hips/thighs/ buttocks</i>	8.2%	4.0%	26.6%	25.5-27.7%	28.1%	28.0%
<i>Knees</i>	12.0%	5.6%	20.5%	19.5-21.5%	20.9%	22.3%
<i>Ankles/ feet</i>	10.4%	5.1%	15.5%	14.6-16.4%	16.8%	17.7%

Table 14 and Figure 39 compare Welsh care homes with the other two HSL studies and the study by Eriksen (2003) of Norwegian nurses' aides using ratios of the seven-day prevalence rates. Table 14 includes 95% confidence intervals for the rate ratios. The only two ratios where the rates were not significantly different at the 5% level are italicised. These were for the ankles / feet for the comparison with the podiatrists and for the upper back for the comparison with the NIOSH project.

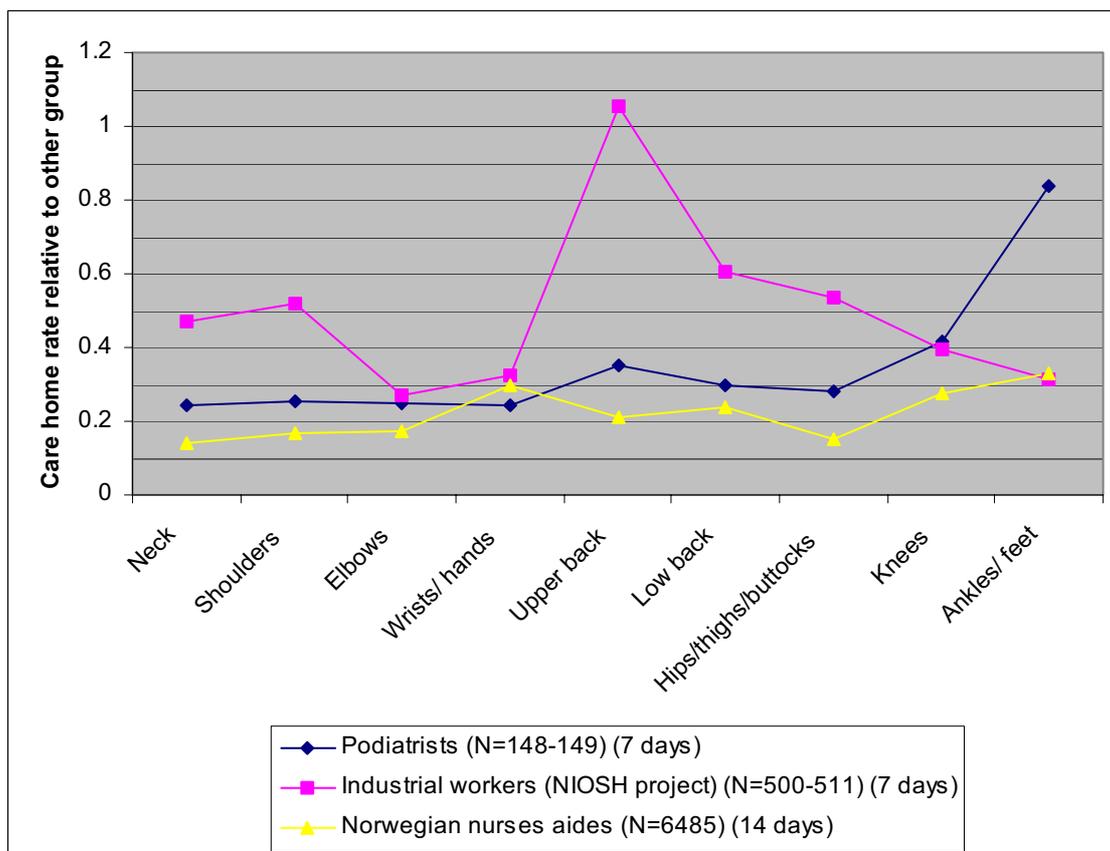
While the tasks of Norwegian nurses' aides are not identical to those of staff in Welsh care homes, there will be significant similarities. The cross-sectional study reported by Eriksen (2003) was carried out in 1999. A subsequent longitudinal study of the same group of workers was reported by Eriksen *et al.* (2004). For this phase, participants were asked about heavy physical work, particularly the frequency of positioning patients in bed the frequency of manual transfers between bed and chair and the frequency of lifting carrying heavy objects. They were not asked about the frequency of use of handling aids. The authors found that frequent mechanical exposures were associated with an increased risk of intense back pain and LBP related sick leave.

It is therefore notable that the rate ratio, for seven day trouble in the low back for Welsh care staff to 14 day trouble in the low back in Norwegian nurses' aides is only 0.138. While the prevalences for the Norwegian survey are for a longer period, the difference between the two studies cannot be attributed to duration alone, as the three-month prevalence for this study is still only 50.6% of the 14-day prevalence in the Norwegian study. The fact that the largest rate ratio between the two studies is 0.33 for the ankles and that the maximum value of a 95%

Confidence Interval is only 0.44 demonstrates that the prevalence rates in Welsh care home staff are significantly and remarkably low.

**Table 14. Rate ratios and 95% confidence intervals for 7 day musculoskeletal trouble data for comparable studies**

	<i>Welsh care homes</i>	<i>UK Podiatrists</i>	<i>UK industrial workers (NIOSH project)</i>		<i>Norwegian nurses' aides</i>		
	<i>N = 819-828</i>	<i>N = 148-149</i>		<i>N = 500-511</i>		<i>N = 6485</i>	
	<i>7 day rate</i>	<i>7 day rate</i>	<i>Rate ratio (95% CI)</i>	<i>7 day rate</i>	<i>Rate ratio (95% CI)</i>	<i>14 day rate</i>	<i>Rate ratio (95% CI)</i>
<i>Neck</i>	7.4%	30.4%	0.24 (0.17-0.34)	15.8%	0.47 (0.34-0.64)	53.5%	0.14 (0.11-0.18)
<i>Shoulders</i>	7.9%	31.1%	0.25 (0.18-0.36)	15.3%	0.52 (0.38-0.71)	47.1%	0.17 (0.13-0.21)
<i>Elbows</i>	2.0%	8.1%	0.24 (0.12-0.50)	7.4%	0.26 (0.15-0.47)	11.7%	0.17 (0.10-0.27)
<i>Wrists/hands</i>	6.2%	25.7%	0.24 (0.17-0.35)	19.2%	0.32 (0.23-0.45)	20.8%	0.30 (0.23-0.39)
<i>Upper back</i>	5.7%	16.2%	0.35 (0.22-0.55)	5.4%	1.05 (0.66-1.67)	27.3%	0.21 (0.16-0.28)
<i>Low back</i>	13.2%	44.6%	0.30 (0.23-0.38)	21.8%	0.61 (0.48-0.77)	54.9%	0.24 (0.20-0.29)
<i>Hips/thighs/buttocks</i>	4.0%	14.1%	0.29 (0.17-0.48)	7.5%	0.54 (0.34-0.84)	26.6%	0.15 (0.11-0.21)
<i>Knees</i>	5.6%	13.4%	0.42 (0.25-0.68)	14.2%	0.39 (0.28-0.56)	20.5%	0.27 (0.20-0.36)
<i>Ankles/feet</i>	5.1%	6.1%	0.83 (0.42-1.68)	16.4%	0.31 (0.22-0.44)	15.5%	0.33 (0.24-0.44)



**Figure 39. Rate ratios for 7/14 day trouble for care home staff**

Comparison with the results of a German population survey (Schneider *et al.*, 2005) that reported low back pain only, not pain in other body parts, showed that 34% had suffered low back pain in the previous 7 days. The figure for females was 38%. As 90% of respondents in this study were female, this gives a relative risk of 13.2%/38%, i.e. 0.347, for 7 day back trouble. While a population survey will include people not in the work force due to musculoskeletal problems and therefore the healthy worker effect (Hartvigsen *et al.*, 2001) would be expected to lead to the care home workforce having lower prevalence rates, the difference in the rates is sufficiently large to indicate again that Welsh care home staff report remarkably low prevalence rates for MSD.

## 5.6 WORKFORCE ATTITUDES TO WORK CHARACTERISTICS

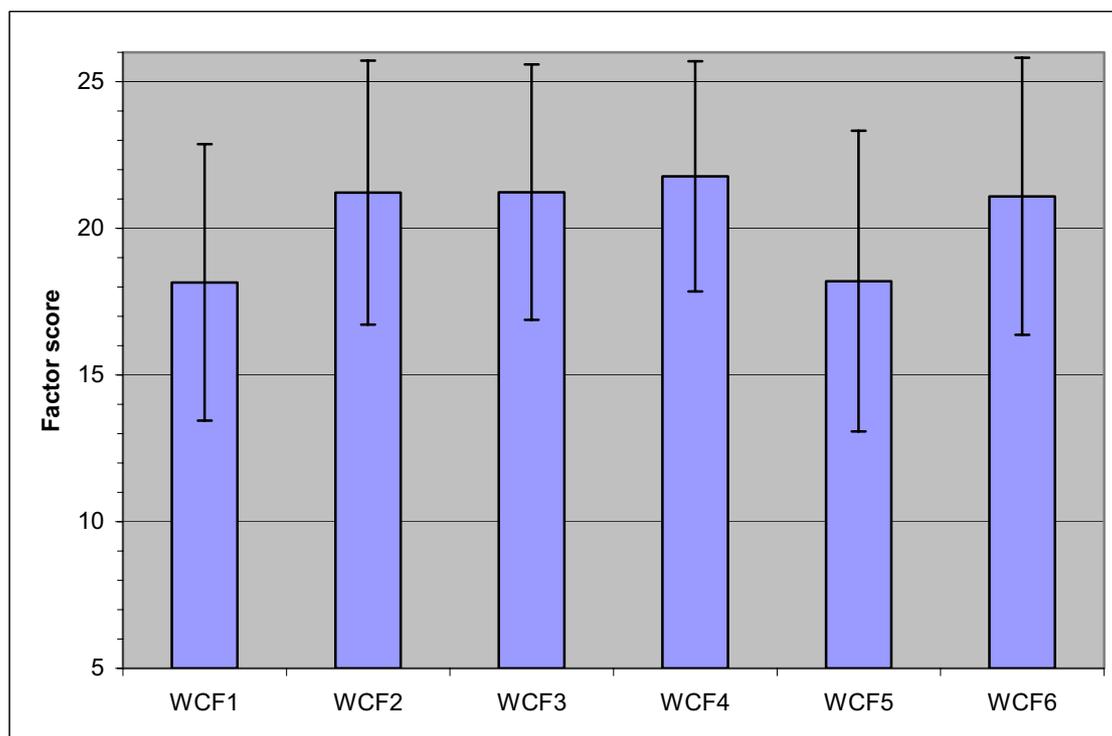
This section reports the results of the analysis of the section of the questionnaire on 'Work Characteristics', i.e. psychosocial factors. Table 15 and Figure 40 give the mean and standard deviations of the factor scores for the six psychosocial factors of the Work Characteristics section of the questionnaire. Because of the way in which the questions were phrased and the factor scores calculated, higher scores show stronger agreement with the questions and more positive attitudes to each factor. The most negative possible score is 5 and the most positive possible score is 25. Therefore a score of 15 indicates neutrality of opinion.

It is clear from these figures that overall, attitudes measured by the six scales were positive. For WCF1, 'Influence on and control over work', and WCF5, 'Psychological work load', the mean was equivalent to a score between 3 and 4 on the five point scale. Although anchors were only used on the ends of the scales such responses can be deemed to be between neutral and positive. For WCF2, 'Supervisor climate', WCF3, 'Stimulus from the work itself', WCF4, 'Relations

with fellow workers’, and WCF6, ‘Management commitment to health and safety’, the mean was equivalent to a score between 4 and 5, which can be deemed to be between positive and strongly positive. The most positively scored scale was WCF4, ‘Relations with fellow workers’, with a mean factor score of 21.77. This factor also had the smallest standard deviation. WCF1, ‘Influence on and control over work’ and WCF5, ‘Psychological work load’ were the most negatively scored with almost identical means in the region of 18.2.

**Table 15. Results for Welsh care staff on the Work Characteristics question set**

<i>Factor</i>	<i>Factor name</i>	<i>Mean factor score</i>	<i>SD of factor score</i>	<i>95% CI of factor score</i>
WCF1	Influence on and control over work	18.15	4.71	17.81 - 18.50
WCF2	Supervisor climate	21.22	4.50	20.89 - 21.55
WCF3	Stimulus from the work itself	21.23	4.35	20.91 - 21.55
WCF4	Relations with fellow workers	21.77	3.93	21.48 - 22.06
WCF5	Psychological work load	18.20	5.12	17.82 - 18.58
WCF6	Management commitment to health and safety	21.09	4.72	20.74 - 21.44

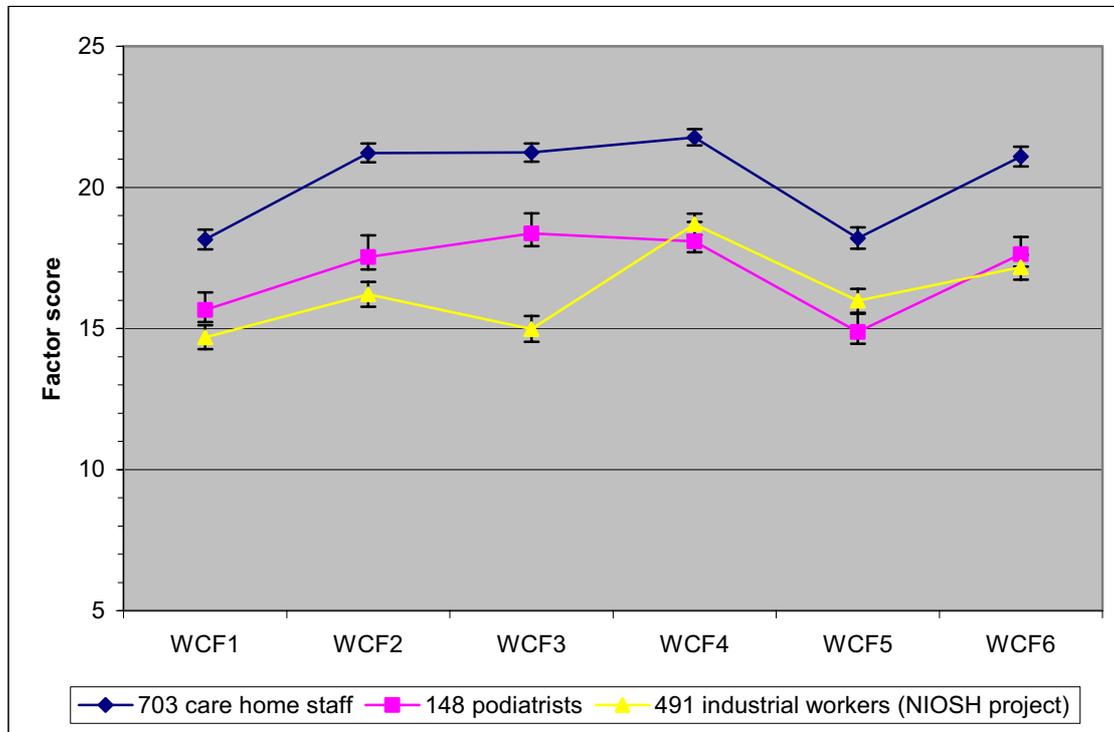


**Figure 40. Means and standard deviations of the factors scores for the work characteristics question set**

**Table 16. Comparison of Work Characteristics factor scores from HSL studies**

<i>Factor</i>	<i>Care home mean</i>	<i>Care home 95% CI</i>	<i>NIOSH mean</i>	<i>NIOSH 95% CI</i>	<i>Podiatrist mean</i>	<i>Podiatrist 95% CI</i>
WCF1	18.15	17.81 - 18.50	14.69	15.11 - 14.26	15.65	16.28 - 15.03
WCF2	21.22	20.89 - 21.55	16.21	16.65 - 15.77	17.53	18.30 - 16.76
WCF3	21.23	20.91 - 21.55	14.98	15.44 - 14.53	18.37	19.08 - 17.66
WCF4	21.77	21.48 - 22.06	18.69	19.07 - 18.31	18.08	18.77 - 17.38
WCF5	18.20	17.82 - 18.58	15.98	16.40 - 15.56	14.88	15.52 - 14.24
WCF6	21.09	20.74 - 21.44	17.17	17.61 - 16.72	17.63	18.24 - 17.02

Table 16 and Figure 41 compares the scores on the work characteristics scales across the HSL studies of care homes, industrial workers and podiatrists. On this graph, means are plotted with error bars showing the 95% Confidence Intervals of the means. This graph demonstrates that the responses from the care staff are significantly ( $P < 0.05$ ) more positive than the responses from the groups of industrial workers and podiatrists. For both of these other studies, the mean scores were in the neutral to positive regions. The scores for these two groups were only significantly different ( $P < 0.05$ ) on WCF2, WF3, and WCF5, and there was overlap of the confidence intervals for the other three factors.



**Figure 41. Comparison of Work Characteristics data from HSL studies (means ± 95% confidence intervals)**

Table 17 and Figure 42 compare the means of the three HSL studies with a series of groups of subjects reported from the original Swedish studies using the first five factors. The groups studied were:

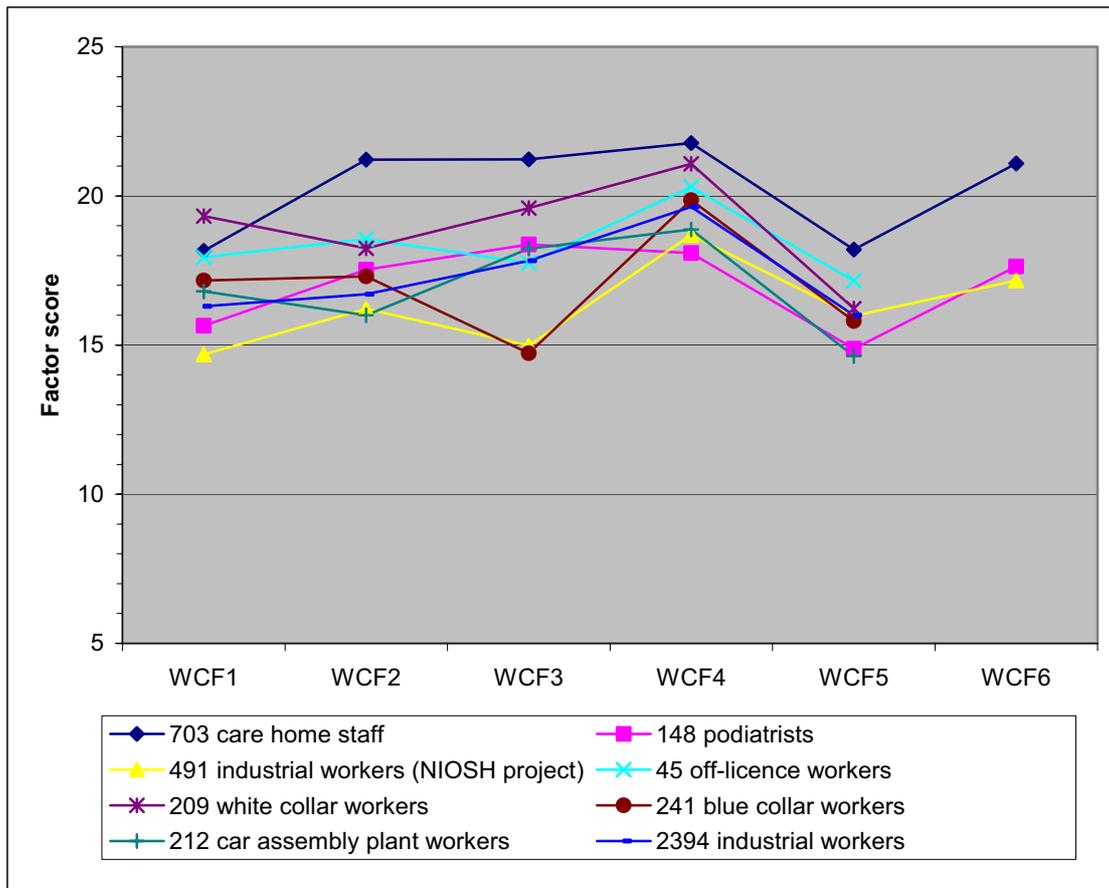
- Car assembly (N = 212) workers (Rubenowitz, 1989)
- Industrial blue collar (N = 2394) reference data (Johansen *et al.*, 1993);
- White collar (N = 209) and blue collar (N = 241) workers (Johansen and Rubenowitz 1994);
- Off-licence workers (Ingelgard *et al.*, 1996).

There is less clear separation between the care staff and some of the groups of Swedish workers, than between the care staff and the other HSL surveys. There is considerable variation between the Swedish groups. However, with the exception of WCF1, ‘Influence on and control over work’, the care staff had the most positive attitudes of all the groups. The exception with WCF1 was that the group of Swedish white-collar workers relegated the care staff into second place. The Swedish studies did not report standard deviations for the factor scores so it was not possible to calculate confidence intervals for them. The variability in the pattern of factor scores between the Swedish studies presumably reflects real differences in the different workforces and in the psychosocial situations that they exist in and suggests that the scales are measuring these differences.

Overall there appears to be a tendency for WCF4, ‘Relations with fellow workers’ to be the most highly scored factor and for WCF1 ‘Influence on and control over work’ and WCF5 ‘Psychological work load’ to be the most poorly scored factors. This can be interpreted as showing that although people feel relatively powerless and stressed at work, they do generally get on well with their fellow workers.

**Table 17. Comparison of Work Characteristics results from care home with previous Swedish studies.**

<i>Factor</i>	<i>Care home mean</i>	<i>45 off-licence workers</i>	<i>209 white collar workers</i>	<i>241 blue collar workers</i>	<i>212 car assembly plant workers</i>	<i>2394 industrial workers</i>
WCF1	18.15	17.95	19.32	17.16	16.80	16.30
WCF2	21.22	18.55	18.24	17.30	16.00	16.70
WCF3	21.23	17.75	19.59	14.73	18.23	17.83
WCF4	21.77	20.3	21.08	19.86	18.87	19.63
WCF5	18.20	17.15	16.22	15.81	14.63	16.00



**Figure 42. Comparison of Work Characteristics factor scores with previous Swedish studies**

## 5.7 WORKFORCE ATTITUDES TO ORGANISATIONAL CONTROL OF MANUAL HANDLING RISKS

This section of results details the findings from the ‘Organisational control of manual handling risks’ section of the questionnaire, with respect to the three factors:

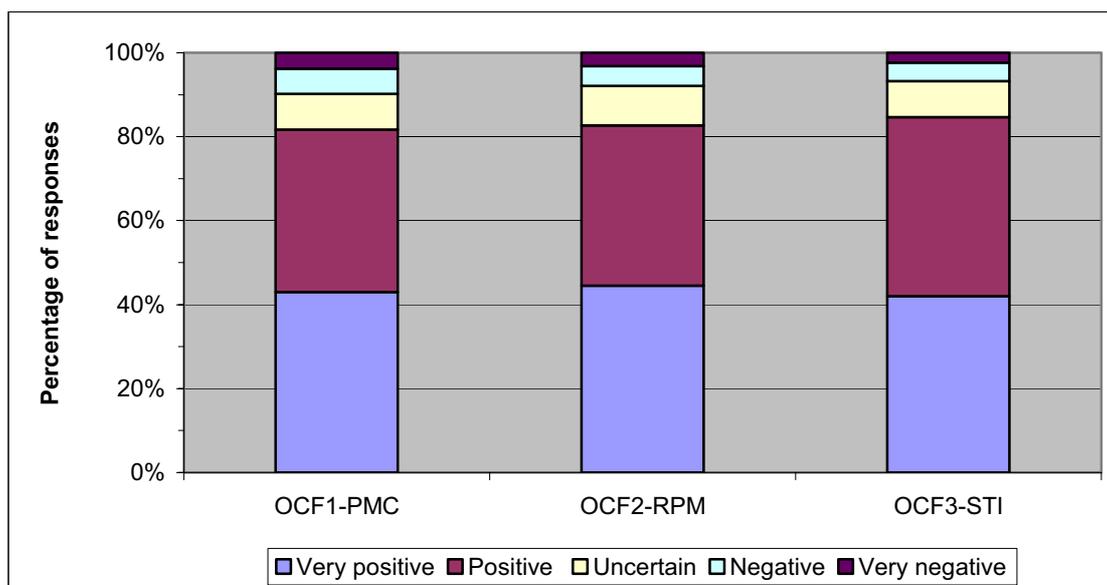
- ‘Perceptions of Management Commitment and Background Climate’ (OCF1-PMC);
- ‘Rules, Procedures and Monitoring’ (OCF2-RPM);
- ‘Staff Training and Involvement’ (OCF3-STI).

For each of the three scales, the results are expressed in terms of:

- Distribution of scores on the three factors for the sample as a whole;
- Distribution of scores on the factors by job type;
- Distribution of scores on the factors by types of care provided at home;
- Distribution of scores on the factors by organisation owning care home;
- Tests of significance of differences between subdivisions of the sample.

### 5.7.1 The undifferentiated sample

To provide a picture of whether the distribution of workforce responses across the whole question set was generally positive or negative, Figure 43 shows aggregated responses for each of the three scales. This was done using scale anchors ranging from ‘Very positive’ to ‘Very negative’ to reflect the five scale anchors of ‘Strongly agree’ to ‘Strongly disagree’ in the questionnaire, but also to take account of the reversed nature of some questions.



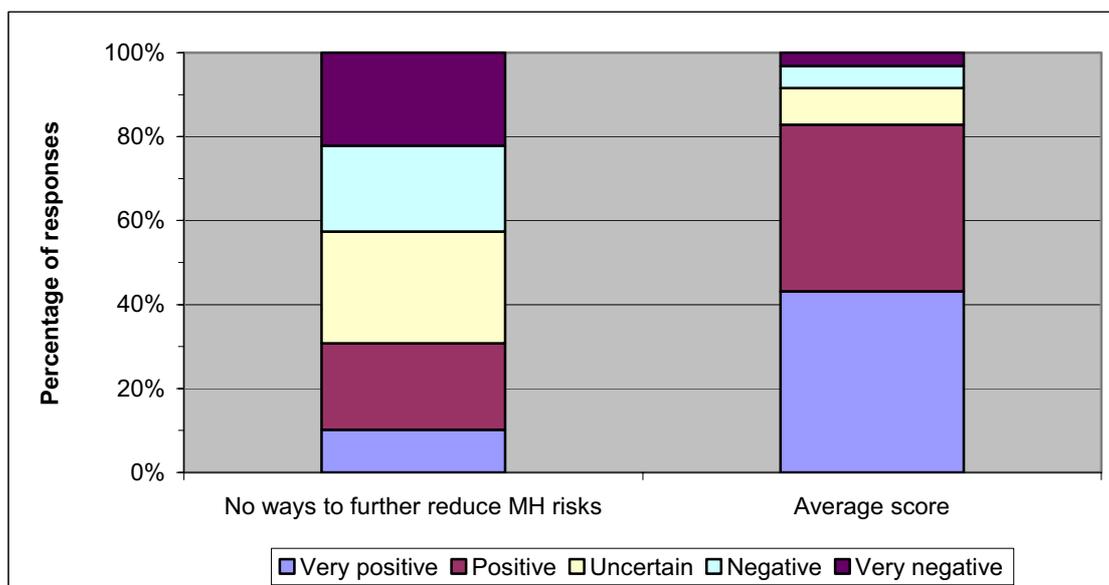
**Figure 43. Distribution of responses across the three Organisational Control scales**

The majority of responses across the sample as a whole were positive or very positive, indicating that the workforce generally perceived a very high standard of manual handling safety management within participating care homes.

With one exception, responses to all of the questions mirror those in Figure 44 above (i.e. ~40% very positive, ~40% positive, 8% uncertain, and 5% negative). The exception that received markedly fewer positive responses was Item 7:

*“There aren’t really any ways in which you could reduce manual handling risks any further at this care home”.*

Figure 44 below compares the results from this item with the mean response across the scales and shows the more negative response. Clearly, as 69% did not believe that there were no further ways to reduce risks from manual handling, there are still significant opportunities for their organisations to reduce these risks. The final item on the questionnaire invited a free-text response suggesting one way of reducing manual handling risk at that care home. The responses to this item are reported in detail in Section 6 but the main themes that emerged were the need for an increase in training, both initial and continuing, for more equipment and lifting aids and for more appropriate use of space in the homes.

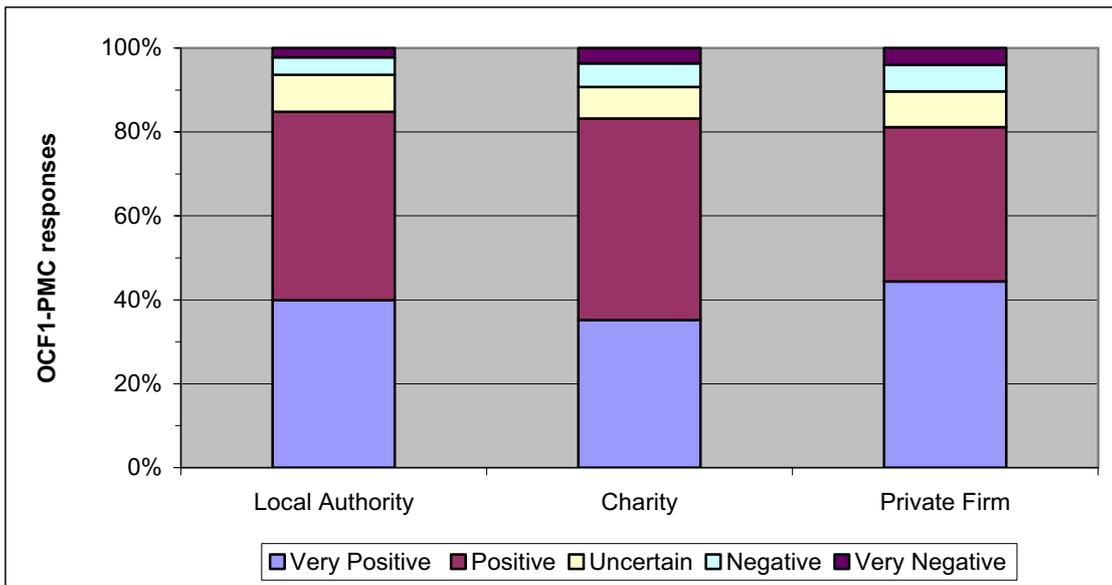


**Figure 44. Comparison of outlying item with average score**

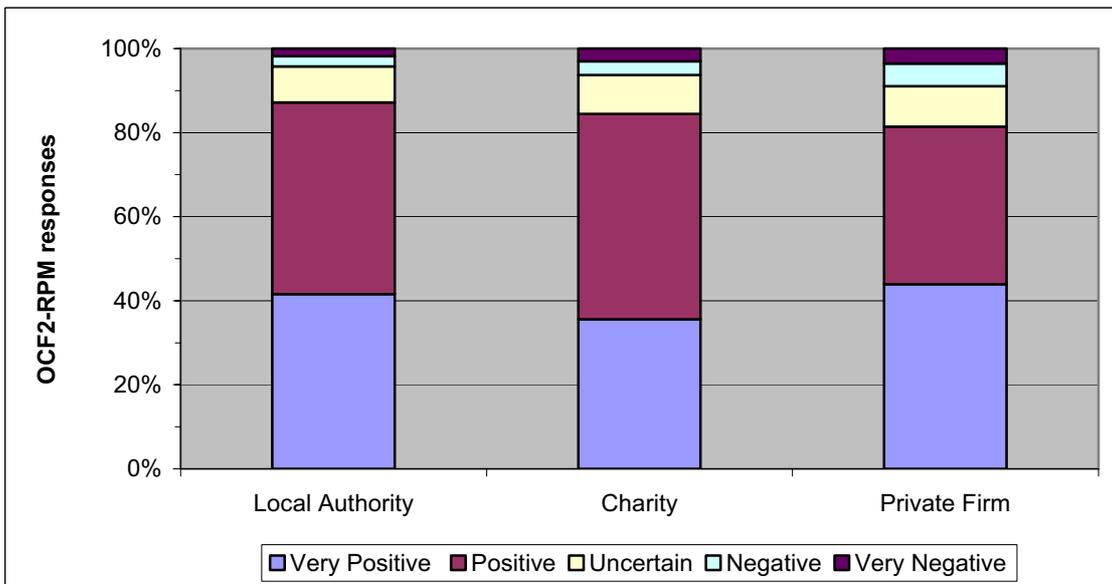
Application of the t-test revealed a statistically significant difference between ratings on this item in comparison with the average rating given on the scale for the remaining items ( $P < 0.01$ ).

### 5.7.2 Organisation owning / running the care home

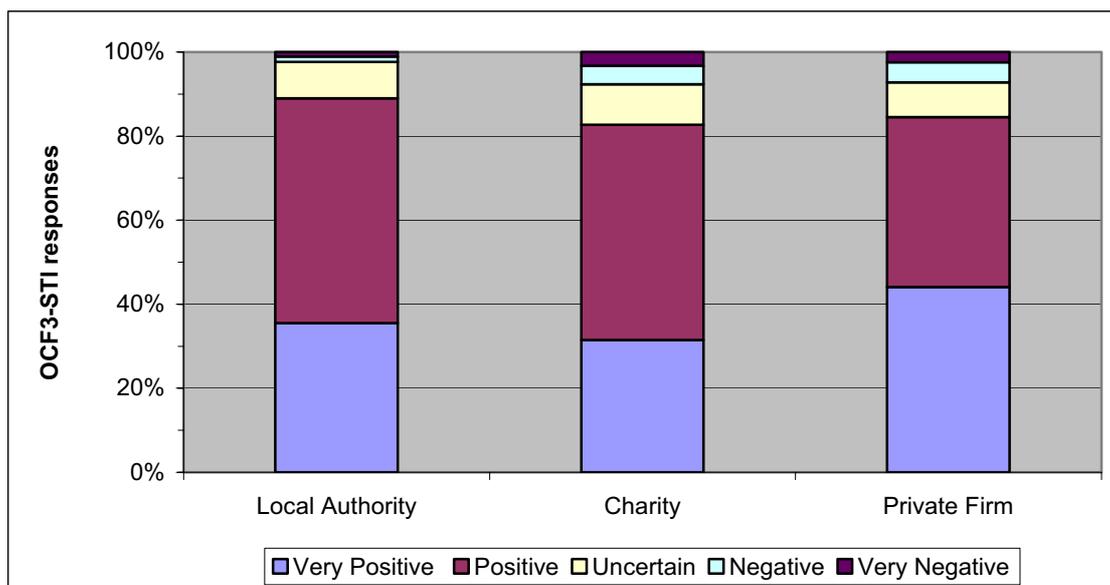
The three factors making up the Organisational Control section of the workforce questionnaire were analysed in terms of the organisation owning / running the care home (see Figures 45, 46 and 47). Tests were conducted using one-way ANOVA to identify significant differences in responses between workers at the different types of care homes. However, the single response from a care home run by an NHS Trust was excluded from analysis. The results from all the three scales revealed no statistically significant differences between staff employed by Local Authorities, charities or private firms.



**Figure 45. Effect of organisation type on responses on the OCF1-PMC scale**



**Figure 46. Effect of organisation type on responses on the OCF2-RPM scale**



**Figure 47. Effect of organisation type on responses on the OCF3-STI scale**

### 5.7.3 Respondent job role in care home

ANOVA tests were conducted to identify significant differences in responses from workers with different job roles. A single response received from an occupational therapist was removed from the analysis.

A number of significant differences in scores on the PMC scale were identified with respect to job role. Primarily, the scores given by admin/maintenance staff were significantly more positive ( $P < 0.01$ ) than those given by any of the other job types. Also, the PMC scores from qualified nurses were significantly more negative ( $P < 0.01$ ) than those of the other job types. The other scores were not significantly different.

On the RPM scale, the scores given by admin/maintenance staff were significantly more positive ( $P < 0.01$ ) than those given by any of the other job types. Also, the RPM scores from qualified nurses were significantly more negative ( $P < 0.01$ ) than those of the other job types. The other scores were not significantly different.

On the STI scale, the scores given by qualified nurses were significantly more negative than those given by managers / owners and admin/maintenance staff ( $P < 0.01$ ). The other scores were not significantly different.

### 5.7.4 Training in manual handling

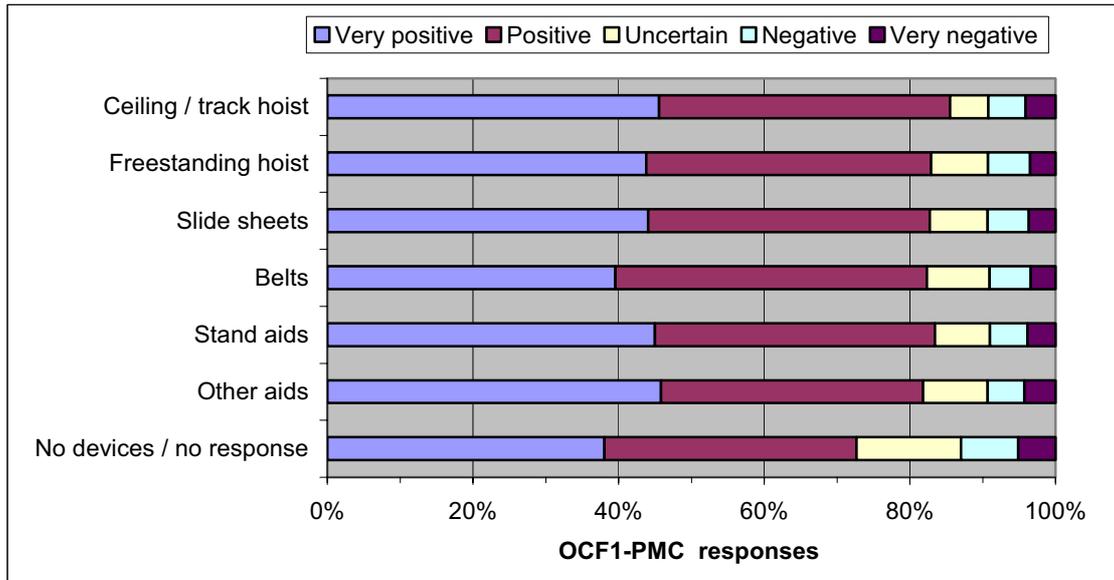
One-way ANOVAs were used to test for differences in responses with respect to whether workers had received organised training in manual handling training of residents / patients.

The ANOVAs revealed significantly higher scores on all three Organisational Control scales from those respondents who had received manual handling training ( $P < 0.01$ ). As the majority of these had received the training (or similar refresher training) within the previous 12 months, it is not surprising that the recently trained subgroup also recorded significantly higher scores ( $P < 0.01$ ) than the untrained staff.

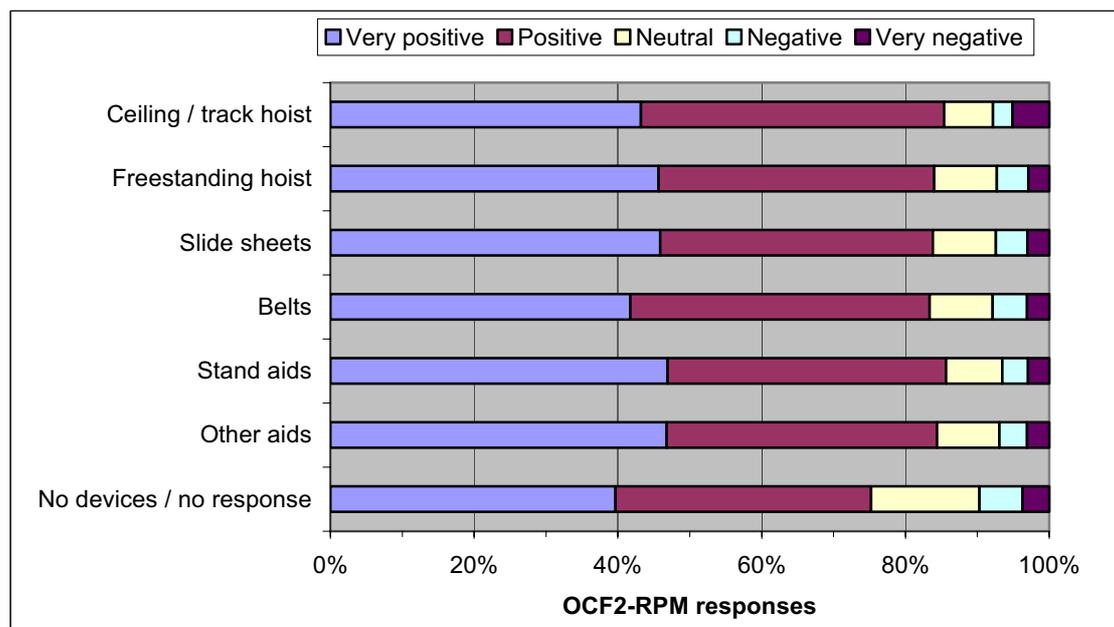
### 5.7.5 Availability of lifting aids

Figures 48, 49 and 50 show how the responses varied on the three Organisational Control scales by whether a particular type of lifting aid was available. As multiple aids were available at most sites it was not possible to use ANOVA to compare these results across devices.

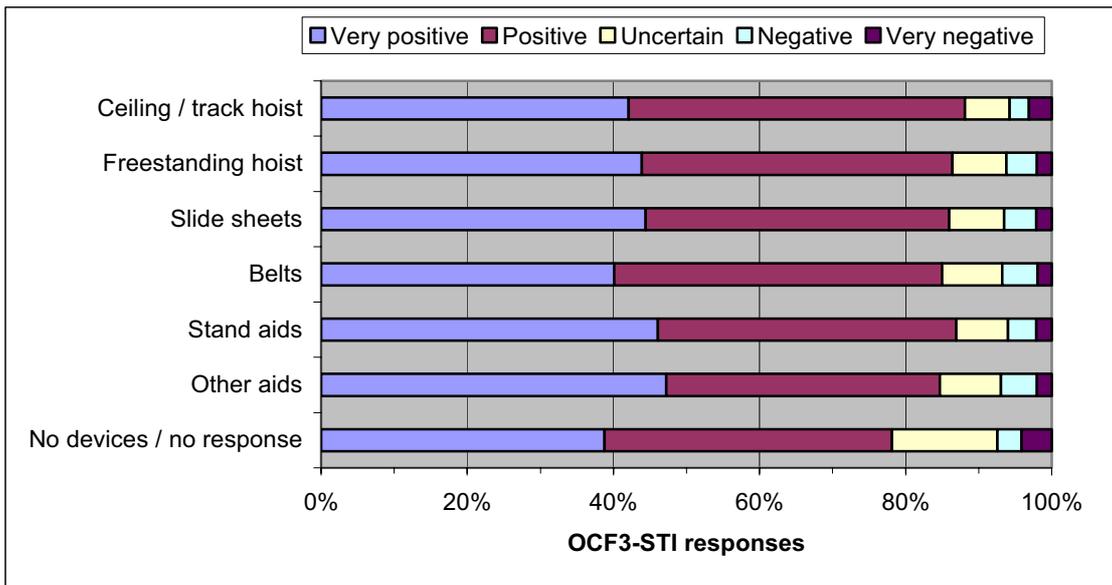
It is clear from the graphs that the responses on all three scales were strongly positive and varied by only a few percent for the different devices. The combined total of 'Very positive' and 'Positive' ratings ranged between 82% and 88%, except for the 'No devices / no response' category where the total positive responses ranged between 73% and 78%.



**Figure 48. Effect of the availability of the different types of lifting aids on responses on the PMC scale**



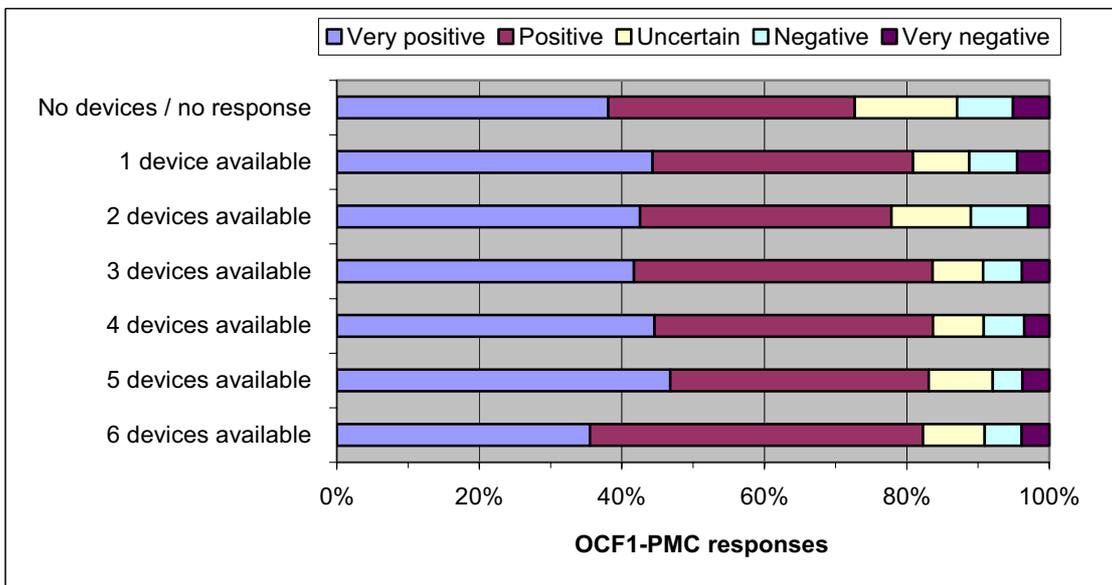
**Figure 49. Effect of the availability of the different types of lifting aids on responses on the RPM scale**



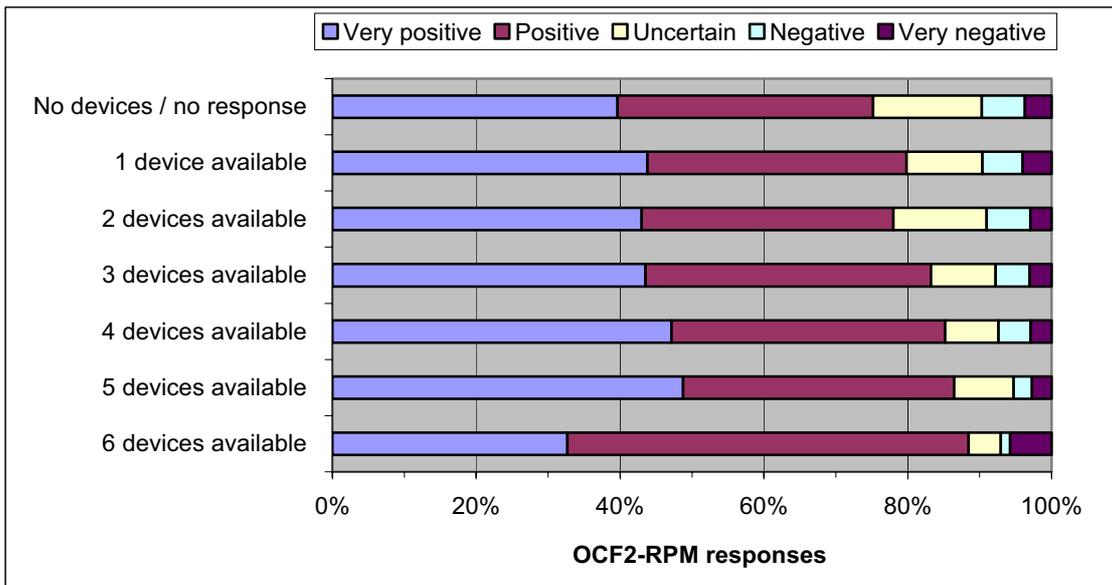
**Figure 50. Effect of the availability of the different types of lifting aids on responses on the STI scale**

### 5.7.6 Number of types of handling aids available

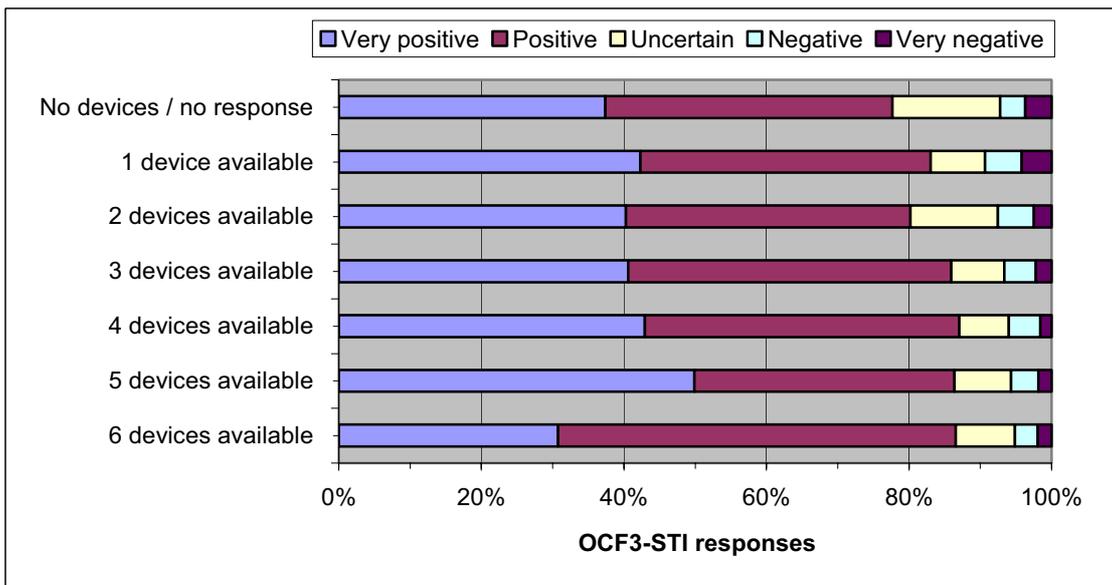
Figures 51, 52 and 53 show how the responses varied on the three Organisational Control scales by how many types of lifting aid were available. One-way ANOVA was used to compare the ratings from the different groups. No significant differences in the ratings on any of the three constructs were found due to the effect of the number of types of handling devices available to the workforce.



**Figure 51. Effect of the number of types of handling aid available on responses on the PMC scale**



**Figure 52. Effect of the number of types of handling aid available on responses on the RPM scale**



**Figure 53. Effect of the number of types of handling aid available on responses on the STI scale**

Again, the responses on all three scales were strongly positive and varied by only a few percent for the different numbers of devices. The combined total of ‘Very positive’ and ‘Positive’ ratings ranged between 78% and 89%, except for the ‘No devices / no response’ category where the total positive responses ranged between 73% and 78%.

### 5.7.7 Major combinations of handling aid available

As there were five device types listed on the questionnaire, and an ‘Other’ category, it is not surprising that a wide variety of combinations of lifting devices were reported as available to the care staff responding to the questionnaire. In order to reduce the number of categories, combinations with low frequencies were combined with other combinations with the same

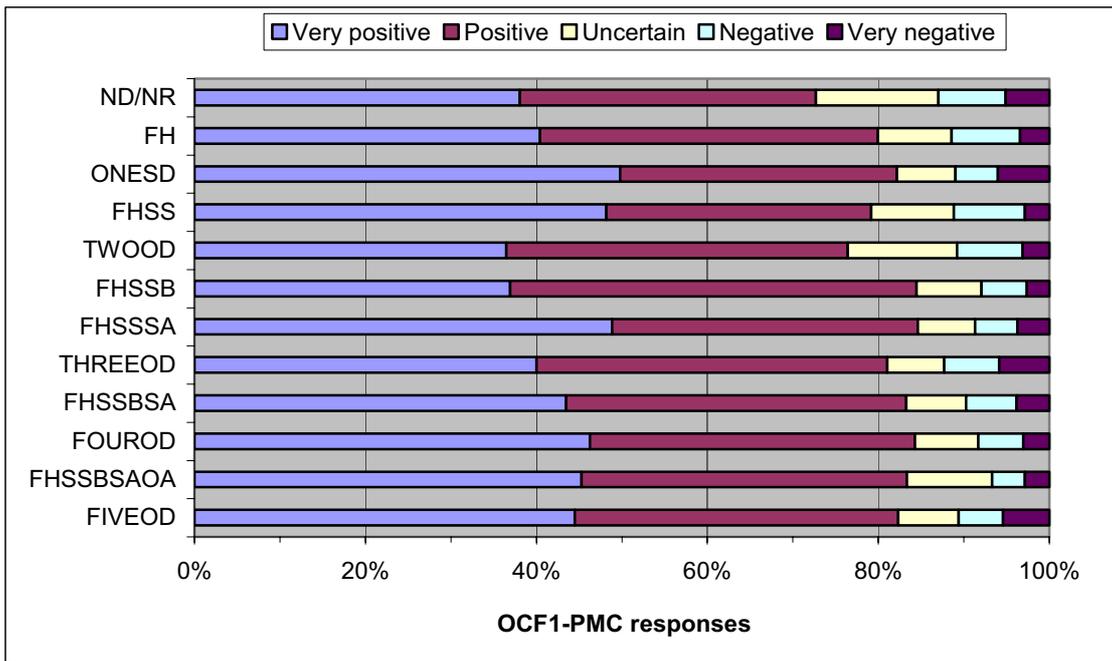
number of devices. This resulted in the twelve combinations listed in Table 18. Figures 54, 55 and 56 show how the responses varied on the three Organisational Control scales by the major combinations of lifting aid that were available. To simplify the graphs, combinations were allocated the alphanumeric codes listed in Table 18. As certain types of devices were very widely available, these recur in many of the combinations of devices.

One-way ANOVA was used to compare the ratings from the different groups. This showed that there were significant differences between available combinations of devices on only one construct scale – the RPM scale ( $P = 0.010$ ). Examination of the data showed that the differences between available combinations were small. The largest difference was between the ‘Two other device types available’ combination and the ‘Freestanding hoists, slide sheets, belts, stand aids and other aids’ combination. This individual comparison was of borderline statistical significance ( $P = 0.05$ ) so it can be concluded that overall the ratings on the three Organisational Control factors were not affected by the devices available.

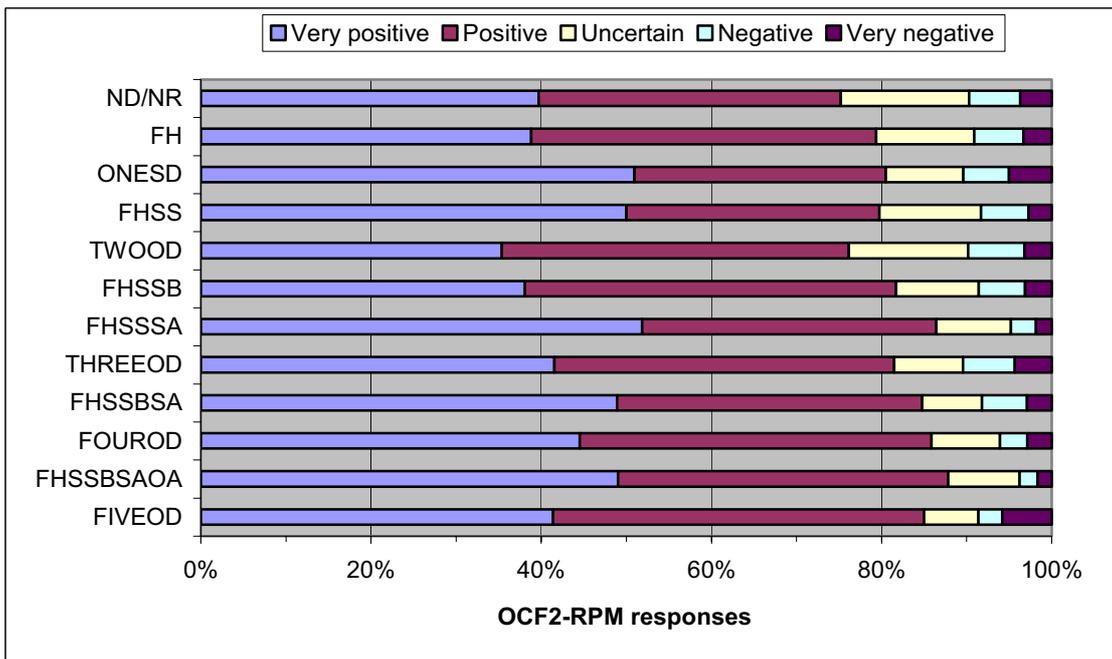
Again, reflecting the overall very positive responses to this section of the questionnaire, the responses on the three Organisational Control scales were strongly positive and varied by only a few percent for the different device combinations. The combined total of ‘Very positive’ and ‘Positive’ ratings ranged between 76% and 90%, except for the ‘No devices / no response’ category where the total positive responses ranged between 73% and 78%.

**Table 18. Major combinations of available handling aids**

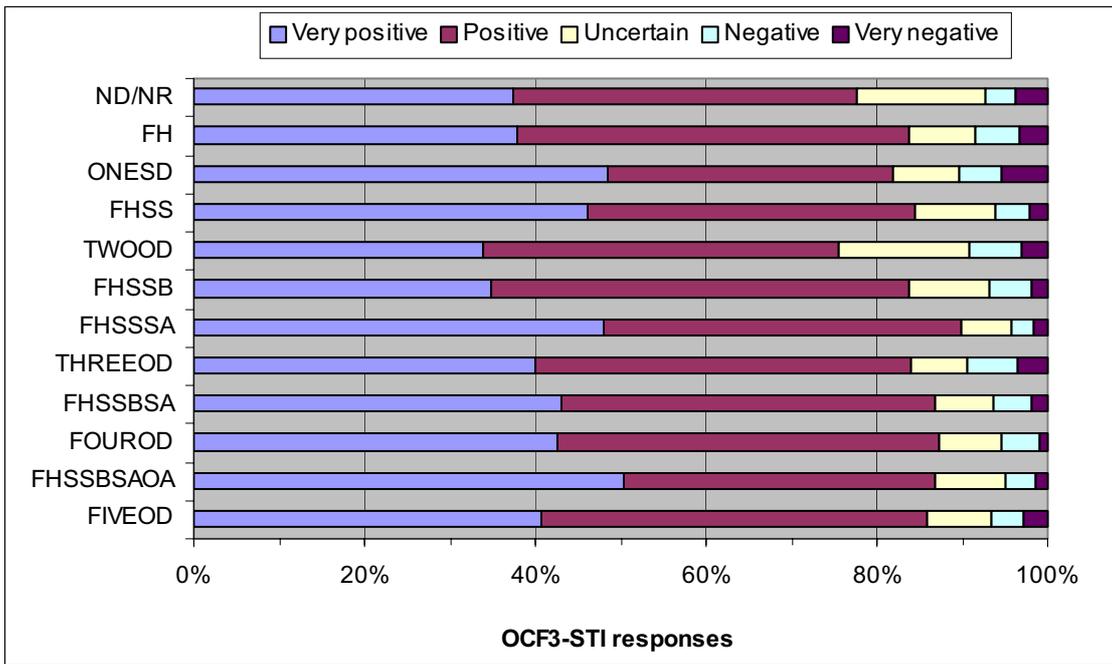
<i>Code</i>	<i>Combination of devices</i>
ND/NR	No devices /No response
FH	Freestanding hoist
ONESD	Other single device available
FHSS	Freestanding hoist and slide sheets
TWOOD	Two other device types available
FHSSB	Freestanding hoists, slide sheets and belts
FHSSSA	Freestanding hoists, slide sheets and stand aids
THREEOD	Three other device types available
FHSSBSA	Freestanding hoists, slide sheets, belts and stand aids
FOUOD	Four other device types available
FHSSBSAOA	Freestanding hoists, slide sheets, belts, stand aids and other aids
FIVEOD	Five other device types / all devices and other devices



**Figure 54. Effect of combinations of handling aid available on responses on the PMC scale**



**Figure 55. Effect of different combinations of handling aid available on responses on the RPM scale**



**Figure 56. Effect of different combinations of handling aid available on responses on the STI scale**

## **5.8 INTER-SURVEY ANALYSIS**

### **5.8.1 Management and workforce cross questionnaire analysis**

A bivariate correlation was conducted between all of the questions on the managers' questionnaire and all of the questions on the worker questionnaire. There were no significant relationships between these measures as single questions.

### **5.8.2 Frequency of equipment use and staff perception**

Correlations were performed on the frequency of use of various equipment and aids used to reduce the risk of manual handling and the staff perceptions of management emphasis on equipment use. The following results were found:

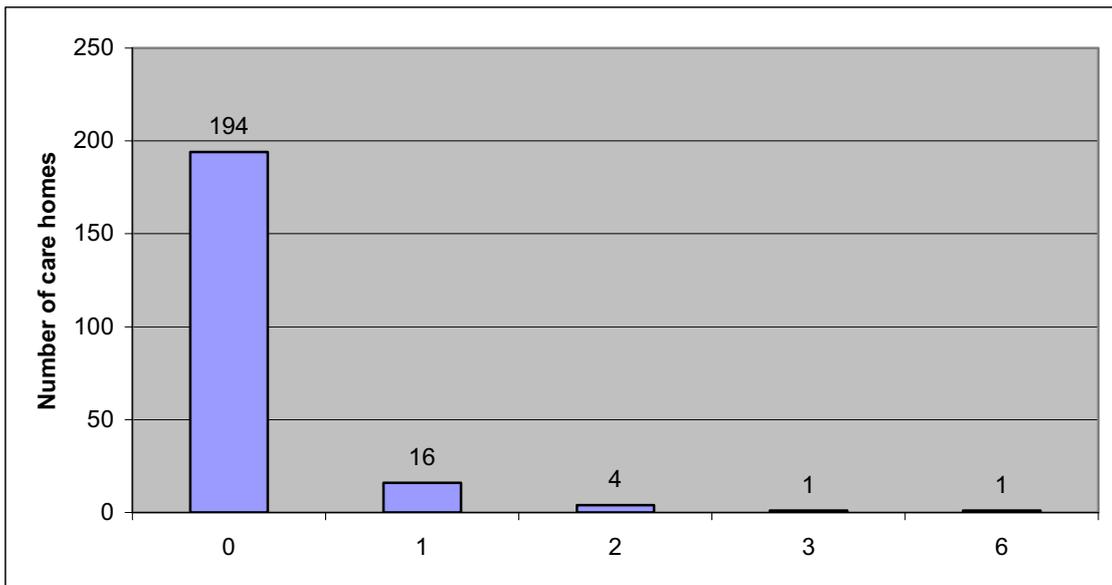
There is a positive relationship between the frequency that a freestanding hoist is used and the belief that management place strong emphasis on manual handling aids and equipment ( $r = 0.430$ ,  $P = 0.000$ ).

There is also a positive relationship between the frequency that a slide sheet is used and the staff perception of management placing a strong emphasis on manual handling aids ( $r = 0.306$ ,  $P = 0.005$ ).

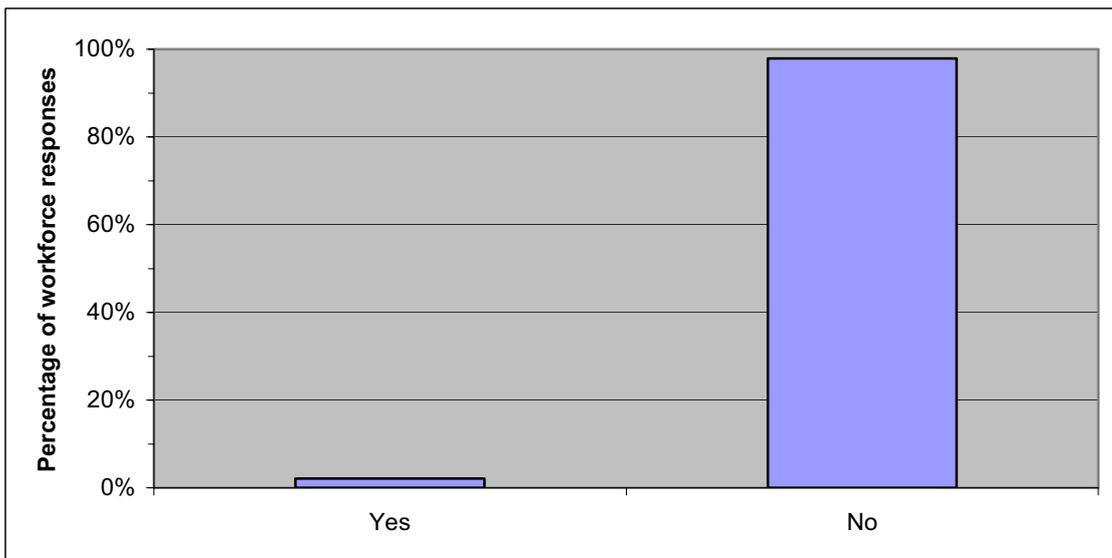
There is no relationship between the use of a ceiling track hoist and whether the staff view of management's emphasis on manual handling aids and equipment ( $r = 0.033$ ,  $P = 0.786$ ). The level of the r-value for the use of belts is approaching an acceptable degree of significance ( $r = 0.188$ ,  $P = 0.093$ ).

### **5.8.3 Time off work due to manual handling injury**

Figure 57 shows that 10% of 216 care homes had manual handling incidents resulting in time off work reported in their accident books within the previous twelve months. The total number of lost time incidents recorded was 33 in that period. Figure 58 shows that 2.1% of staff responding to the workforce survey reported that they had time off work due to manual handling problems in the previous 3 months. There are no obvious discrepancies between reported incidences and staff responses. A univariate analysis of variance was conducted between these two variables. There was no significant relationship between the number of reported incidents and the number of incidents staff identified. ( $F = 0.193$ ,  $P = 0.825$ ). Inevitably, the level of underreporting of injuries that were not entered into the accident book cannot be taken into account. However, accident book data were obtained from 216 (90%) of the 241 care homes visited, so a sufficient sample of accident books was obtained. Various factors contribute to the under reporting of injuries. For example, MSD injuries can be cumulative and may become acute outside the workplace. Also, the nature of work and conditions in which staff work may influence the reporting or misattributing injuries to non-work activities.



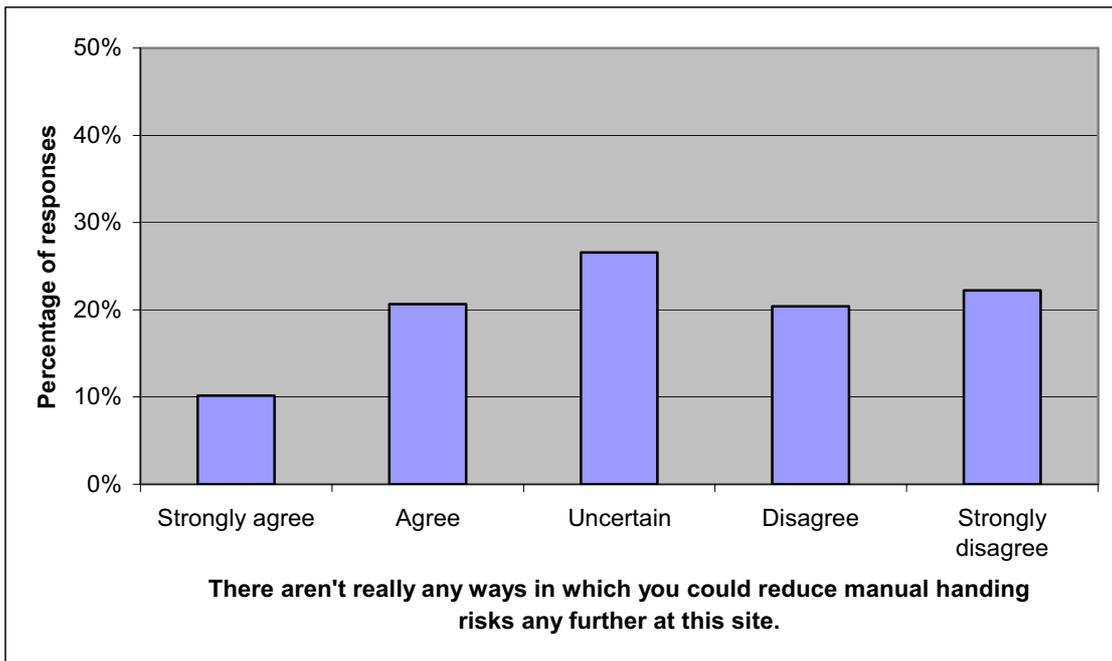
**Figure 57. Number of manual handling lost time accidents in care home accident books in the previous 12 months**



**Figure 58. Time off in last 3 months due to manual handling problems**

**5.8.4 Staff and management opinions on methods available to reduce manual handling risks**

Question 7 in the workforce questionnaire asked staff for their opinion as to whether they believe manual-handling risks could be reduced in their care home. Figure 60 shows that over 40% of respondents believed that their care home could do more to lower manual handling risks. This is comparable with the qualitative answers in the managers’ survey as managers stated a multitude of methods that may lower the risk of manual handling. This question has various intricacies that were not feasible to measure during this project.



**Figure 59. Staff views on possibilities of reducing manual handling risks**

## 6 KEY THEMES - IDEAS FOR IMPROVING MANUAL HANDLING IN CARE HOMES

### 6.1 WORKFORCE QUESTIONNAIRE

At the end of the workforce questionnaire, respondents were invited to describe changes that could be implemented to reduce the risks from manual handling at their workplace, with details and justification. Key themes that arose from these responses, and that illustrate the workforce main issues were:

- The importance of having the correct and most effective equipment to reduce manual handling requirements (e.g. tracking hoists, chair lifts, profile beds, standing aids, etc.);
- The need to be properly instructed in the use of these items of equipment and that it should relate to real life situations;
- Maintenance of existing equipment;
- Manual handling training.

Manual handling training was seen to need both initial induction training as well as regular and comprehensive refresher training. Two concerns were raised about levels of training at present. The first was the lack of training before commencement of employment. It was suggested that staff should not start manual handling work until they had had their initial training:

*“Been here for about 3 months no training for another 3 months.”*

Also, it was a concern to staff that the quantity of training they did receive was not sufficient:

*“More training. Half a day once a year is not enough.”*

Many respondents stated that increases in resources, both financial and staff, were needed. An increase in funding would allow for an increase in equipment but also for more staff. Low staffing levels were cited as being a reason behind manual handling risks for a number of client groups.

A number of respondents stated that the lack of space within the care home was a factor that increased their manual handling risk. They stated that confined spaces or badly arranged furniture caused discomfort and difficulties in manoeuvring clients. This increased their use of incorrect manual handling procedures. It was suggested that rearrangement of furniture or arrangement of equipment might assist in improving the risks.

Staff also suggested that having a supervisor or coordinator in-house who could ensure that good manual handling practice continued care would be useful to stop any bad practice. This position would also enable staff to have a point of contact for health and safety information. This would supplement the ongoing training, as many staff would like ‘on the spot’ advice.

It was acknowledged that client groups had different needs and that housing them in the appropriate care home would reduce health and safety issues for staff. Residential care home workers stated they had difficulties handling residents that they felt should have been moved to nursing care homes. This is also linked to the necessity to assess residents regularly.

Respondents stated that residents' physical condition can worsen very rapidly and therefore their needs in terms of manual handling might also change rapidly.

## 6.2 MANAGEMENT QUESTIONNAIRE

Section C of the managers' questionnaire invited respondents to describe changes that could be implemented to reduce the risks from manual handling at their workplace, with details and justification. A range of responses were provided, which have been grouped into a number of key themes, as outlined below:

- Appropriate training for all relevant staff was detailed as key by a multitude of homes in reducing manual handling risks. This must be both site and client specific, as some clients have particular handling requirements.
- Many respondents advocated the purchase of a range of different types of handling aids / equipment to reduce manual handling requirements (e.g. tracking hoists, chair lifts, profile beds, standing aids etc).
- The need for a continuing dedicated manual handling risk assessment process was emphasized, for both live and non-live handling (including what may be considered 'peripheral activities').
- Increased staffing levels were noted as being beneficial in reducing manual handling risks for a number of different client bases.

The desired training could be administered by either external qualified training agencies, or by internally trained personnel, who could then disseminate their skills amongst other members of staff. In instances where external trainers are used, some respondents suggested a scheme to assess the competence of trainers, to ensure that this is adequate before engaging their services. The importance of regular refresher training was underscored:

*"Ongoing training keeps staff updated in new techniques, and offers reminders to avoid formation of 'bad habits'".*

Some respondents requested financial assistance to cover the costs of mandatory courses, or as an alternative, the provision of free training. A few respondents drew attention to the need to further raise awareness / educate personnel regarding the long-term risks associated with manual handling on staff health. This included encouraging staff to utilise equipment provided, primarily through supervision from senior staff.

It was highlighted that the introduction of handling aids must be accompanied by demonstrations / advice for care staff on how to use the equipment safely. Some respondents also expressed the need for financial support in order to purchase this equipment, which can often be expensive.

A number of respondents drew attention to the requirement to involve staff in producing the risk assessments for maximum utility. Also highlighted was the need for a process of formal, periodic review of assessments to incorporate changes within the home.

## 7 UTILITY OF JOINT INSPECTION PROCESS

### 7.1 UTILITY OF PROJECT INSPECTION APPROACH

In addition to distributing the managers' questionnaire during inspections of each care home, both HSE and LA inspectors were required to complete an evaluation proforma, as a means of providing evidence pertaining to the perceived utility of joint inspections.

The answers given on these evaluation sheets have been aggregated and are presented in this section. Inspectors were asked to rate the value of the project inspection approach in assessing the standards of manual handling in the care home, and were asked if the project approach had enabled the inspector to effectively assess the risk gap on manual handling issues in the care sector:

These ratings indicate a very positive appraisal of the utility of the project inspection approach used by inspectors. As can be seen in Table 19, 82% of inspectors stated that they agreed with the statement that joint working was valuable in the assessment of manual handling safety standards within a care home. 78.5 % responded positively concerning the joint approach as being effective in assessing the manual handling risk gap at a care home.

**Table 19. Responses regarding the utility of the project inspection approach (N = 214)**

	<i>Valuable tool in assessing standards of manual handling in care homes</i>	<i>Approach enabled manual handling risk gap to be effectively assessed</i>
<i>Strongly agree</i>	26.4%	27.6%
<i>Agree</i>	55.6%	50.9%
<i>Neither agree nor disagree</i>	17.1%	20.6%
<i>Disagree</i>	0.9%	0.9%
<i>Strongly disagree</i>	0%	0%

### 7.2 UTILITY OF JOINT INSPECTION VISITS

HSE and LA inspectors completed a separate visit evaluation proforma in instances where a joint visit was performed. Here, the officers were required to provide ratings to answer the three questions, as outlined in Table 20:

**Table 20. Responses regarding the utility of joint visits (N = 36)**

	<i>Beneficial exercise in joined up working</i>	<i>Promoted improved communication between HSE &amp; LA</i>	<i>Effectively contributed to improved consistency of inspection</i>
<i>Strongly agree</i>	58.3%	66.7%	44.4%
<i>Agree</i>	38.9%	30.6%	30.6%
<i>Neither agree nor disagree</i>	2.8%	2.8%	25%
<i>Disagree</i>	0%	0%	0%
<i>Strongly disagree</i>	0%	0%	0%

It may be observed that the response profile regarding the utility of joint visits was highly positive, indicating that the vast majority of these visits were considered to be of benefit by inspection staff. For these questions there were no negative responses.

## **8 MAIN FINDINGS**

### **8.1 OVERALL FINDINGS**

- Questionnaires were completed by managers of 241 care homes from across Wales that were visited by HSE and LA inspectors in late 2004. Follow up visits by a survey company resulted in 860 workforce questionnaires being returned from 84 of these care homes.
- Manual handling problems appear to be well controlled in the care home sector in Wales, with low incidence and prevalence of musculoskeletal problems, positive attitudes among both managers and staff and the widespread availability and use of handling aids.

### **8.2 MANAGERS' QUESTIONNAIRE**

- The majority of staff in care homes are routinely involved in manual handling. 193 of 236 care homes (82%) reported that more than 80% of staff are routinely involved in manual handling tasks. 161 of 232 (70%) care homes reported that over 80% of staff involved in manual handling had received training in safe handling techniques. Another 42 (18%) reported that between 60 and 80% of these staff had received such training. Only 11 of 232 (5%) care homes had less than 40% of staff trained.
- Although over 90% of care homes stated that they utilised formal risk assessment, it is of concern that 8% did not have any formal risk assessments. Managers in 1% did not know if they had formal risk assessments. Of the respondents that reported having formal risk assessments, 66.7% reported having assessed 80-100% of manual handling tasks to date, 24% had assessed 60-80% of tasks, and 8% had assessed below 60%.
- Managers perceived that the levels of the corporate safety climate, the management commitment to health and safety, the cultural profile of health and safety, and the effectiveness of risk managements systems were high. This homogeneity in responses across these four constructs indicates that managers' perceptions of safety management systems in the care homes surveyed were generally favourable, and that the opportunity for marked improvements in safety climate in care homes may be limited.
- Managers in the care homes that had the highest proportions of staff trained in safe handling gave higher ratings of the corporate safety climate than those that has the lowest proportion trained. The same effect was found when comparing homes with formal risk assessment programmes to those without.
- Management commitment to health and safety was seen to be substantially higher in Local Authority owned homes than in charity run homes. There was no difference with privately run homes.
- Overall the managers' perceptions were more positive about the general safety climate and management commitment in their care homes than towards the level of the cultural profile of health and safety among more junior staff and the use of risk assessments in the workplace.

### 8.3 WORKFORCE QUESTIONNAIRE

- Overall the managers' perceptions were more positive about the general safety climate and management commitment in their care homes than towards the level of the cultural profile of health and safety among more junior staff and the use of risk assessments in the workplace.
- While some staff have many years of experience in their current job, the care home workforce has a significant number of new entrants each year and there is a high rate of turnover of staff, with 24% having less than one year's experience in their current job.
- The mean working week was 33 hours, with only 16% of respondents reporting working more than 40 hours per week.
- Mechanical handling aids are in general use and, in particular, hoists and slide sheets are very widespread. The availability of multiple types of devices is common and the available devices are in frequent use.
- Almost 90% of staff reported having received training in manual handling at some point but less than 75% reported receiving such training in the previous twelve months. The level of training was lower (between 50% and 70%) for staff that did not routinely perform manual handling tasks, but that this rate was still relatively high.
- 10% of respondents reported ever having had time off work due to problems caused or made worse by manual handling. Only 2.1% reported having taken time off work for this reason in the previous three months. Consistent with this, only 28% reported low back problems of any severity in the previous three months. In fact, prevalence rates of musculoskeletal trouble across the body were lower than those found with the same questionnaire in industrial workers and far lower than for a group of podiatrists.
- Comparison of the results of this study with the results of a recent Norwegian study of similar jobs showed that the prevalence rates in Welsh care home staff are significantly and remarkably lower.
- Workforce perceptions of the characteristics of their work, i.e., their responses on a series of psychosocial factors, were positive to very positive, especially when compared to other surveys using the same scales.
- Workforce perceptions of organisational control of manual handling risks in the care homes surveyed were generally favourable, except that only 31% believed that there were no further ways to reduce risks from manual handling. Ratings of organisational control of manual handling risks were significantly higher for the respondents who had received manual handling training than for those who had not received training.
- Overall, findings appear to suggest that the management of manual handling risks has a high profile for care home workers. Workforce perceptions were mostly positive and in marked contrast to results obtained from other industry sectors.

#### **8.4 OTHER FINDINGS**

- There were no significant relationships between management answers and employees' answers, but the questionnaires were not designed for the purpose of correlating their responses. There are some interesting parallels nevertheless that suggest there is consistency between management and workers' perceptions.
- Both workers and managers believed that manual handling risks could be reduced further. The suggested interventions included an increase in training, both initial and continuing; more equipment and lifting aids; and more appropriate use of space in the buildings. This therefore may signify that there does exist scope for improvement within most care homes.
- The responses from the LA and HSE officers were predominantly positive concerning the utility and benefit of joint LA and HSE inspections.

## 9 DISCUSSION

The current survey provides a ‘snapshot’ of the situation regarding manual handling risk management and manual handling risk in Welsh care homes in late 2004. The results therefore provide the first ‘benchmarked’ insights into management and workforce perceptions of the status of manual handling risk management systems in care homes.

A consistent story has emerged from the results of the questionnaires. This is that manual handling problems appear to be well controlled in the care home sector in Wales.

There were high levels of management commitment reported in the managers’ questionnaire. The questions on the workforce questionnaire on the organisational control of manual handling risks revealed that the predominant attitude of the workforce is very positive towards management efforts to control manual handling risks, suggesting that they saw the management of care homes as mostly having good control of the risks of manual handling.

The outcome of this good control of manual handling risk is shown firstly by the low reported rates of absence due to problems associated with manual handling and the short durations of most of the absences reported.

This good control is indicated secondly by the remarkably low prevalence rates of musculoskeletal trouble obtained with the NMQ. These rates were significantly lower than in other UK surveys of different working populations and in a comparable survey of a similar workforce in Norway.

It can be seen from the responses to the questionnaires that handling aids are widely available and in widespread use in the sector. The fact that training levels are high (90% of staff), and recent for approximately 75% of staff, is another indication of management commitment. The finding that equipment use was frequent within care homes may be the result of the moves in recent years to no-lift policies in health care (Lovely and Gardner, 2005, Edlich *et al.*, 2005; Passfield *et al.*, 2003). Such policies have been designed to reduce the exposure of health care workers such as nurses and care assistants to the risks from manual handling of patients. They have therefore been implemented with a concomitant provision of manual handling aids and individual assessment of the need for handling of patients.

The cross-sectional nature of the survey carried out here precludes drawing conclusions as to causation, but other studies indicate that the provision of manual handling aids reduces the risks of injury and disability from manual handling (Chhokar *et al.*, 2005). The study did not attempt to measure the amount of manual handling that staff were carrying out and so was not able to estimate workload. However, the retrospective study by Cohen *et al.* (2004) in ‘intermediate care facilities’ showed that workload measures of staffing levels, resident dependency-to-worker ratios, and the number of tasks performed, correlated significantly with lost-time injury rates and lost-time musculoskeletal injury rates.

The nature of the study was that managers completed their surveys in the wake of an inspection visit by HSE or the Local Authority EHOs that could have resulted in enforcement action being taken against them. This may have resulted in the managers tending to give “socially acceptable” answers in a conscious or unconscious attempt to portray their care home to HSE in the best possible light in order to reduce the possibility of further interest and hence possible enforcement action. While the questionnaires were anonymous, they did identify the care home and in some cases it would be possible for someone with knowledge of the staff at a care home in some cases to identify the individual who completed it from the information recorded.

The workforce questionnaire was delivered and collected by an independent market research company and its completion was voluntary and also anonymous. The risks of bias in the answers due to perceptions of HSE are therefore less than with the management survey. As there was no control over how the questionnaires were distributed in the care home and how they were filled in and returned, it is possible that collusion between staff took place or that managers sought to influence the responses given.

Because of the wide variety in numbers of questionnaires returned by individual care homes, and in the relatively small number of care homes surveyed, it is likely that detailed attempts to correlate the answers on the two questionnaires would not be particularly fruitful. However, the overall messages coming from the two surveys are consistently positive.

Findings from a survey such as this offer a means of providing safety regulators and managers with feedback on current performance on management of manual handling operations, as well as an agenda for future initiatives designed to assess areas of apparent weakness. The outputs from such measures offer the potential to track changes over time in the prevalence of musculoskeletal trouble and in the cultural profile of manual handling risk management through repeated sampling of both the management and the workforce. Such a process would determine which particular issues surrounding manual handling have improved, and also whether some areas require further attention.

Results from this type of questionnaire can be used to examine differences between types of care homes or staff role / profession. This kind of comparison could help to highlight good manual handling strategies in certain organisations that might be transferable to others within this and other sectors.

Measuring attitudes to the organisational control of manual handling in a workplace is important as the safety climate approach shows that the prevailing safety culture (risk attitudes, norms and behaviours) of workforces reflect the priorities of organisations and their senior managers. Future investigation of the factors contributing to safety climate may shed more light on this.

The principal strength of safety climate benchmarking tools is that they provide an insight into current safety management performance from the perspectives of both management and the workforce and therefore offer complementary perspectives that can eliminate blind spots that would occur with only a single perspective. Safety climate measures are perhaps best viewed as a supplement to raw accident / incidence data, which are traditionally 'noisy' and variable, making it difficult to discern underlying trends and latent influences.

## 10 RECOMMENDATIONS

- Organisations within the care homes sector should be encouraged to maintain the present high standard of manual handling risk management systems reported in this study. They should be encouraged to seek even higher standards by considering ways in which they can better control, and further reduce the risks.
- Ideally, a longitudinal study should be conducted with a fixed group of care homes and care staff. This would permit the measurement of changes over time in the profile of manual handling risk management due to further management interventions to reduce risk. As such studies are difficult, time consuming, and expensive, serial cross sectional surveys of the management of risks within different care homes would also yield very valuable information.
- Although the levels of training were generally high, there is still a substantial number of staff not trained in manual handling and this should be remedied. A structured and standardised training scheme may alleviate the inconsistency between levels of training within care homes.
- The qualitative data provides recommendations from staff and management in care homes concerning methods of reducing manual handling risks. The main findings include an increase in training, both initial and continuing, more equipment and lifting aids and more appropriate use of space.
- Partnership working between LAs and HSE was viewed very positively; it would be beneficial for joint working to continue in appropriate situations.

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## **12 APPENDICES**

### **12.1 APPENDIX 1 – MANAGERS' QUESTIONNAIRE**

**‘Promoting the All Wales Manual Handling Scheme in the Care and Residential Homes Sector’**

**EMPLOYERS SURVEY**

This seeks information and **your** views on the steps **your organisation** has taken to minimise the potential for injury to those working at this home - due to **lifting, carrying** or **otherwise manually handling** clients, goods, supplies, materials, equipment or other loads.

The questionnaire should take 10-15 minutes to complete. The responses throughout the questionnaire are confidential and it will not be possible to identify you personally from any response or in any future reports.

*Please make sure that you complete Sections A, B, and C of the questionnaire:*

**SECTION A**

**1. What is your job title:**

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**2a. What is the name of this site / care home?**

**2b. What is the name of your employing organisation?**

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**3a. How many people work in this care home?**

**3b. How many of these are care workers?**

**3c. How many clients live in this care home?**

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**4. What is the purpose / role of this care home?**

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**5. How many beds are allocated in this care home to:**

**5a. Nursing care?**

**5b. Residential care?**

**5c. Respite clients?**

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6. Please give an estimate of the proportion of personnel on site who routinely perform tasks that involve the manual handling of clients, products, supplies, materials or other loads?

0-20%  1    21-40%  2    41-60%  3    61-80%  4    81-100%  5    Don't know  6

6a > *Of those staff who are involved in manual handling:* What proportion of these staff have received training in safe handling techniques?

0-20%  1    21-40%  2    41-60%  3    61-80%  4    81-100%  5    Don't know  6

7. Is there a formal (documented) system for assessing the risks associated with tasks that involve manual handling at this site?

Yes  1  
No  2  
Don't know  3

7a > If 'Yes': What proportion of manual handling tasks has been assessed to date?

0-20%  1    21-40%  2    41-60%  3    61-80%  4    81-100%  5    Don't know  6

8. Is there a formal programme of manual handling training for relevant staff at this site?

Yes  1  
No  2  
Don't know  3

8a > If 'Yes': Please indicate the proportion of relevant staff that has received training in safe handling techniques.

0-20%  1    21-40%  2    41-60%  3    61-80%  4    81-100%  5    Don't know  6

8b > If 'No': How likely is it that a training programme on safe handling techniques will be introduced on your site in the next 12 months?

Very unlikely  1    Unlikely  2    Possibly  3    Likely  4    Very likely  5    Don't know  6

## SECTION B

This section of the questionnaire asks you about a range of aspects of manual handling safety management. For each of the following questions you should circle the box that best describes your site in terms of a range of topics relating to manual handling safety management.

<b>1. Corporate safety climate</b>		<b>Definition - Profile and level of priority given to health and safety by the care home</b>			
<i>(Please circle the statement that you feel best reflects current practice in your care home.)</i>					
<b>Awareness</b>	<ul style="list-style-type: none"> <li>The care home shows almost no awareness of the need to assess and control risks posed by manual handling.</li> </ul>	<ul style="list-style-type: none"> <li>The care home shows a fairly low level of awareness regarding the need to assess and control risks posed by manual handling.</li> </ul>	<ul style="list-style-type: none"> <li>The care home has a moderate awareness of the need to assess and control manual handling risks.</li> </ul>	<ul style="list-style-type: none"> <li>The care home has a fairly high level of awareness of the need to assess and control manual handling risks.</li> </ul>	<ul style="list-style-type: none"> <li>There is a high level of awareness in this care home regarding the need to assess and control manual handling risks.</li> </ul>
<b>Priority</b>	<ul style="list-style-type: none"> <li>The level of priority given to the reduction of manual handling risks is generally very low in this care home.</li> </ul>	<ul style="list-style-type: none"> <li>Manual handling injuries tend to be viewed as a fairly low priority compared with other risks in this care home.</li> </ul>	<ul style="list-style-type: none"> <li>There is a moderate level of awareness of the need to prioritise ways of reducing manual handling risks in this care home.</li> </ul>	<ul style="list-style-type: none"> <li>The care home sees the reduction of manual handling injuries as an important priority.</li> </ul>	<ul style="list-style-type: none"> <li>The care home sees the reduction of manual handling risks as a high priority.</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>Very little or no separate resource is allocated to the reduction of manual handling risks at this site.</li> </ul>	<ul style="list-style-type: none"> <li>The level of resource dedicated to the reduction of manual handling risks is fairly low at this site.</li> </ul>	<ul style="list-style-type: none"> <li>The care home makes a moderate level of resource available for the assessment of manual handling risks, the purchase of equipment, and staff training.</li> </ul>	<ul style="list-style-type: none"> <li>The care home makes ample resources available for conducting assessments of manual handling risks; purchase of equipment for reducing levels of manual handling risks, and staff training.</li> </ul>	<ul style="list-style-type: none"> <li>Obtaining the necessary resources for conducting manual handling risk assessments, purchase of equipment which reduces risks from manual handling and staff training in safe handling practices is not a problem in this care home.</li> </ul>
<b>Initiatives</b>	<ul style="list-style-type: none"> <li>There have been no initiatives at this site aimed at reducing levels of risk associated with manual handling.</li> </ul>	<ul style="list-style-type: none"> <li>Little consideration has been given to the introduction of initiatives designed to reduce levels of risk associated with manual handling.</li> </ul>	<ul style="list-style-type: none"> <li>There is an intention to introduce initiatives to reduce levels of risk associated with manual handling at this site at some point over the next 6 to 12 months.</li> </ul>	<ul style="list-style-type: none"> <li>An initiative has been introduced to reduce levels of risk associated with manual handling.</li> </ul>	<ul style="list-style-type: none"> <li>There is an ongoing programme of initiatives designed to reduce levels of risk associated with manual handling at this site.</li> </ul>
<i>(Please circle the statement that you feel best reflects current practice in your care home.)</i>					

<b>2. Management Commitment</b>		<b>Definition - The level of priority and commitment to health and safety demonstrated by senior managers</b>			
<i>(Please circle the statement that you feel best reflects current practice at your care home.)</i>					
<b>In-sight &amp; Understanding</b>	<ul style="list-style-type: none"> <li>Senior management at this site have little or no insight or understanding of the need for risk assessment.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site have a limited awareness of the need to conduct risk assessments.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site have a reasonable understanding of the need for risk assessment and its general principles.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site have a good, but non-specific understanding of the need for risk assessment and risk assessment systems.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site have a detailed understanding of risk assessment and its role in health and safety management.</li> </ul>
<b>Priority</b>	<i>(Please circle the statement that you feel best reflects current practice at your care home.)</i>				
	<ul style="list-style-type: none"> <li>Senior management at this site show little or no interest in manual handling risks and health and safety issues in general.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site tend to view the risks associated with manual handling activities as a minor issue.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site show a moderate level of concern regarding the need to control manual handling risks.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site see the control of manual handling risks as an important issue.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site see the control of manual handling issues as a high priority.</li> </ul>
<b>Involvement</b>	<i>(Please circle the statement that you feel best reflects current practice at your care home.)</i>				
	<ul style="list-style-type: none"> <li>Senior management at this site demonstrate little or no motivation to become involved in health and safety management.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site tend to see risk assessment and health &amp; safety management in general as a minor part of their role and one which is largely outside their remit.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site have demonstrated a moderate level of preparedness to become involved in establishing risk assessment systems.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site have played an active role in setting up risk assessment systems at this site.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site have adopted a leading role in setting up risk assessment systems at this site.</li> </ul>
<b>Initiatives</b>	<i>(Please circle the statement that you feel best reflects current practice at your care home.)</i>				
	<ul style="list-style-type: none"> <li>Senior management at this site show little or no regard for the success or failure of health and safety initiatives at this site.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site play a minor role in any health and safety initiatives at this site.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site show some awareness of the need to demonstrate their commitment to health and safety initiatives and are prepared to play some role in them.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site have played an active role in health and safety initiatives and have, on occasion, made attempts to publicise and demonstrate this commitment to the workforce.</li> </ul>	<ul style="list-style-type: none"> <li>Senior management at this site have played a leading role in health and safety initiatives and are keen to make the most of opportunities to publicise and demonstrate this commitment to the workforce.</li> </ul>

<b>3. Cultural Profile</b>		<b>Definition - The profile of health and safety and standards / norms of safety behaviour by care staff</b>			
<i>(Please circle the statement that you feel best reflects current practice at your care home.)</i>					
<b>Supervisory Profile</b>	<ul style="list-style-type: none"> <li>Care supervisors place very little or no discernible emphasis on good manual handling practices.</li> </ul>	<ul style="list-style-type: none"> <li>Care supervisors demonstrate a limited understanding of the need to ensure that manual handling of clients, goods, materials and supplies are carried out in a safe manner.</li> </ul>	<ul style="list-style-type: none"> <li>Care supervisors demonstrate a moderate level of concern regarding the need to control the risks from manual handling. They demonstrate some commitment to addressing manual handling issues with care staff, but are not always consistent in their enforcement of safe practice.</li> </ul>	<ul style="list-style-type: none"> <li>Care supervisors see the control of manual handling risks as a significant issue; they recognise the importance of encouraging care staff to adopt safe manual handling procedures, and are consistent in their approach to the enforcement of safe practice with care staff.</li> </ul>	<ul style="list-style-type: none"> <li>Care supervisors place a high level of priority on the control of manual handling risks, are proactive in encouraging care staff to adopt safe manual handling procedures, and are consistent in their approach to the enforcement of safe practice with care staff.</li> </ul>
<i>(Please circle the statement that you feel best reflects current practice in at your care home.)</i>					
<b>Care Staff Profile</b>	<ul style="list-style-type: none"> <li>Care staff are generally unconcerned about manual handling risks, and accept them as 'part and parcel' of the job.</li> </ul>	<ul style="list-style-type: none"> <li>Care staff demonstrate a limited awareness of the risks associated with manual handling, but the issue is not a major concern for them.</li> </ul>	<ul style="list-style-type: none"> <li>Care staff demonstrate a reasonable level of awareness of the risks associated with manual handling and show some concern regarding the need for their reduction.</li> </ul>	<ul style="list-style-type: none"> <li>Care staff exhibit a significant level of interest and concern regarding the need to adopt safe manual handling practices and demonstrate a willingness to comply with safe practice.</li> </ul>	<ul style="list-style-type: none"> <li>Care staff demonstrate a high level of concern regarding the need to control manual handling risks, demonstrate a strong desire to adopt safe practices and are keen to be involved in developing suitable risk reduction measures.</li> </ul>

<b>4. Risk Management Systems</b>		<b>Definition - The status of health and safety management systems for assessing and controlling risk</b>			
<b>Assessment</b>	<ul style="list-style-type: none"> <li>There has been no attempt to introduce a formal risk assessment system for manual handling procedures at this site.</li> </ul>	<ul style="list-style-type: none"> <li>Some consideration has been given to the introduction of formal risk assessment procedures for manual handling, but systems are not yet in place.</li> </ul>	<ul style="list-style-type: none"> <li>Manual handling risk assessment procedures are currently being developed, and will be introduced in the next 6 to 12 months.</li> </ul>	<ul style="list-style-type: none"> <li>Manual handling risk assessment procedures have been developed and assessments are currently being conducted.</li> </ul>	<ul style="list-style-type: none"> <li>The majority of manual handling risk assessments have been completed and suitable control measures introduced.</li> </ul>
<b>Health Monitoring</b>	<ul style="list-style-type: none"> <li>There are no formal procedures for monitoring the incidence of injury or ill-health resulting from manual handling activities.</li> </ul>	<ul style="list-style-type: none"> <li>Some consideration has been given to the introduction of health monitoring procedures to assess the frequency of injury / ill-health resulting from manual handling activities.</li> </ul>	<ul style="list-style-type: none"> <li>There is an intention to introduce formal procedures designed to monitor the incidence of ill-health resulting from manual handling activities at some point over the next 6 to 12 months.</li> </ul>	<ul style="list-style-type: none"> <li>Formal procedures are being introduced to monitor injuries and ill-health from manual handling activities.</li> </ul>	<ul style="list-style-type: none"> <li>Procedures for monitoring injuries and ill-health associated with manual handling are well established and provide a clear picture of incidence and the types of activity being performed. This can be used to inform the selection of risk reduction measures.</li> </ul>
<b>Audit &amp; Review</b>	<ul style="list-style-type: none"> <li>There are no formal audit and review procedures in place for assessing manual handling risks.</li> </ul>	<ul style="list-style-type: none"> <li>Some consideration has been given to the introduction of formal audit and review procedures for manual handling risk assessments, but there are currently no procedures in place.</li> </ul>	<ul style="list-style-type: none"> <li>There is an intention to introduce audit and review procedures for manual handling risk assessments at some point over the next 6 to 12 months.</li> </ul>	<ul style="list-style-type: none"> <li>Audit and review procedures for manual handling risk assessment are being drafted, but have yet to be fully introduced.</li> </ul>	<ul style="list-style-type: none"> <li>A formal system of periodic audit and review for risk assessment of manual handling procedures has been introduced, information from which is used to further enhance control and reduce risks.</li> </ul>

## Risk Management Systems continued

<b>Conducting Assessments</b>	<i>(Please circle the statement that you feel best reflects current practice at your care home.)</i>			
<ul style="list-style-type: none"> <li>There are no formal arrangements for the training of care staff in manual handling risk assessment.</li> </ul>	<ul style="list-style-type: none"> <li>Some consideration has been given to the introduction of manual handling risk assessment training.</li> </ul>	<ul style="list-style-type: none"> <li>There is an intention to introduce training in manual handling at some point over the next 6 to 12 months.</li> </ul>	<ul style="list-style-type: none"> <li>An ongoing programme of manual handling risk assessment training has been introduced.</li> </ul>	<ul style="list-style-type: none"> <li>A programme of manual handling risk assessment training has largely been completed.</li> </ul>
<b>Staff Involvement in Initiatives</b>	<i>(Please circle the statement that you feel best reflects current practice at your care home.)</i>			
<ul style="list-style-type: none"> <li>There are currently no plans to involve care staff representatives in conducting manual handling risk assessments.</li> </ul>	<ul style="list-style-type: none"> <li>Some consideration has been given to the involvement of care staff representatives in conducting manual handling risk assessments at some point over the next 6 to 12 months.</li> </ul>	<ul style="list-style-type: none"> <li>There is an intention to begin a programme involving care staff representatives in conducting manual handling risk assessments at some point over the next 6 to 12 months.</li> </ul>	<ul style="list-style-type: none"> <li>There is an ongoing programme of involving care staff representatives in conducting manual handling risk assessments.</li> </ul>	<ul style="list-style-type: none"> <li>A programme of involving care staff in conducting manual handling risk assessments is well established to the extent that this constitutes part of normal risk management procedures.</li> </ul>

## SECTION C

**If there was one thing that could be done to reduce the risks from manual handling at this care home, what would this be?** (please give details and reasons to justify your answer in the box below)

**12.2 APPENDIX 2 - WORKFORCE QUESTIONNAIRE**



## MANUAL HANDLING

11 Have you <b>ever</b> had organised training in manual handling of residents / patients?	Yes 1 <input type="checkbox"/>	No 2 <input type="checkbox"/>			
12 Have you had this training or refresher training <b>in the last 12 months</b> ?	Yes 1 <input type="checkbox"/>	No 2 <input type="checkbox"/>			
13 Which of these types of mechanical devices or handling aids are available for your use when handling residents? Please tick all that apply	1 <input type="checkbox"/> Ceiling/track hoist 3 <input type="checkbox"/> Slide sheets 5 <input type="checkbox"/> Stand aids	2 <input type="checkbox"/> Freestanding hoist 4 <input type="checkbox"/> Belts 6 <input type="checkbox"/> Other aids			
14 How often do staff in this care home make use of these mechanical devices or handling aids?	<b>Whenever possible</b>	<b>Often</b>	<b>Occasionally</b>	<b>Infrequently</b>	<b>Never</b>
a. Ceiling/track hoist	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
b. Freestanding hoist	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
c. Slide sheets	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
d. Belts	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
e. Stand aids	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

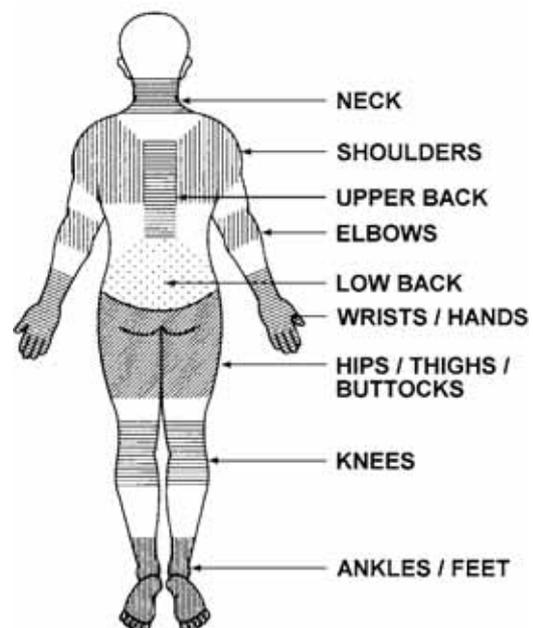
## MUSCULOSKELETAL DISORDERS

15 a. Have you <b>ever</b> had <b>time off work</b> because of problems caused or made worse by manual handling?	Yes 1 <input type="checkbox"/>	No 2 <input type="checkbox"/>
b. In the <b>last three months</b> have you had time off work because of these problems?	Yes 1 <input type="checkbox"/>	No 2 <input type="checkbox"/>
c. If you took time off work in the <b>last three months</b> because of these problems, how long was the longest period?	<input type="text"/> weeks + <input type="text"/> days	

The next page asks about musculoskeletal troubles, such as aches or pains, you may have had recently. Please use the tick boxes -  - to answer each of the four questions for each part of the body shown in the picture on the right.

The picture shows how the body has been divided. The areas of the body are not sharply defined and some parts overlap. You should decide for yourself which part (if any) is or has been affected.

Please make sure you put one tick only for each question. For example, you could answer Yes for the right elbow, or the left elbow, or both elbows.



**MUSCULOSKELETAL DISORDERS (CONT)**

	Have you at any time during the <b>last three months</b> had <b>trouble</b> (such as <b>ache, pain, discomfort, numbness, tingling, or pins and needles</b> ) in your:	Have you had this <b>trouble</b> during the <b>last seven days</b> ?	During the <b>last three months</b> has this trouble <b>prevented</b> you carrying out normal activities (e.g., job, housework, hobbies)?	During the <b>last three months</b> has this trouble been <b>caused</b> or <b>made worse</b> by your job?
<b>Neck</b>	<b>1</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/>	<b>2</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/>	<b>3</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/>	<b>4</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Caused 3 <input type="checkbox"/> Made worse
<b>Shoulders</b>	<b>5</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>6</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>7</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>8</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Caused 3 <input type="checkbox"/> Made worse
<b>Elbows</b>	<b>9</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>10</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>11</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>12</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Caused 3 <input type="checkbox"/> Made worse
<b>Wrists/hands</b>	<b>13</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>14</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>15</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>16</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Caused 3 <input type="checkbox"/> Made worse
<b>Upper back</b>	<b>17</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/>	<b>18</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/>	<b>19</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/>	<b>20</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Caused 3 <input type="checkbox"/> Made worse
<b>Lower back (small of back)</b>	<b>21</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/>	<b>22</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/>	<b>23</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/>	<b>24</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Caused 3 <input type="checkbox"/> Made worse
<b>Hips/thighs/buttocks</b>	<b>25</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>26</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>27</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>28</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Caused 3 <input type="checkbox"/> Made worse
<b>Knees</b>	<b>29</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>30</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>31</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>32</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Caused 3 <input type="checkbox"/> Made worse
<b>Ankles/feet</b>	<b>33</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>34</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>35</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Right only 3 <input type="checkbox"/> Left only 4 <input type="checkbox"/> Both	<b>36</b> No Yes 1 <input type="checkbox"/> 2 <input type="checkbox"/> Caused 3 <input type="checkbox"/> Made worse

Please check you have answered **ALL** of the questions on this page, even if you have never had trouble in any part of your body.

**WORK CHARACTERISTICS**

Please use the tick boxes to show how much you agree or disagree with each of the following statements:

	<b>Strongly disagree</b>				<b>Strongly agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1 You can influence how fast you work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 You can influence your working methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 You can influence how work tasks are shared out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 You have control over the technical aspects of your work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 You can influence the rules and regulations at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 You have sufficient contact with your immediate supervisor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 Your supervisor asks your advice on work-related problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 Your immediate supervisor considers different viewpoints	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9 Your immediate supervisor provides sufficient information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10 You and your immediate supervisor communicate well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 Your work is interesting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 Your work is varied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13 You have opportunities to use your skills in your job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14 You have opportunities to learn new things at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15 Overall, you feel satisfied in your work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16 You have good contacts with your fellow workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17 You have opportunity to talk with fellow workers about the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18 You find the atmosphere at work cheerful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19 You have opportunities to discuss work-related problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20 You consider your fellow workers to be your friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21 The amount of stress you are under at work is acceptable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22 Your workload is acceptable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23 Your job does not make you feel exhausted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24 Your rest breaks at work are long enough	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25 You are not under too much mental strain at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26 Your employer worries about your health and safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27 Your employer tells you it is important to report accidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28 Your employer takes care to make your work safe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29 Your employer checks regularly if your work is making you ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30 Your employer makes sure health and safety rules are followed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Strongly disagree</b>				<b>Strongly agree</b>

Please check you have answered **ALL** of the questions on this page.

## ORGANISATIONAL CONTROL OF MANUAL HANDLING RISKS

These questions seek your views on the steps your organisation has taken to minimise the potential for injury to you and your colleagues from lifting, carrying or otherwise manually handling residents, equipment, supplies, materials, or other loads.

All of the questions are in the following format:

		Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
1	A bad back can be very painful.	1	2 ✓	3	4	5

Please read each statement carefully and tick one of the five boxes to show how much you agree or disagree with each statement. Please give your honest opinions.

<b>Please tick the box which best represents your views on each of the following statements:</b>		Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
1	Management here are keen to make sure that people manually handle residents, equipment or materials in a safe manner.	1	2	3	4	5
2	Management know that people sometimes don't handle residents, equipment or materials in the correct manner, but they're not really bothered as long as no-one gets injured.	1	2	3	4	5
3	Management generally have a poor understanding of the manual handling risks at this care home.	1	2	3	4	5
4	Management here place a strong emphasis on the use of manual handling aids and equipment for the handling of residents, equipment and materials.	1	2	3	4	5
5	Management here rarely consult care staff about ways of reducing the risks from manual handling.	1	2	3	4	5
6	When supervisors see someone handling residents, equipment or materials in a dangerous way they generally say nothing.	1	2	3	4	5
7	There aren't really any ways in which you could reduce manual handling risks any further at this care home.	1	2	3	4	5
8	The care home values a contribution from care staff on how to reduce the risks from manual handling.	1	2	3	4	5
9	If people don't handle residents, equipment or materials in the prescribed manner, supervisors want to know why.	1	2	3	4	5
10	If someone gets a manual handling injury here, management are quick to introduce changes to stop it happening again.	1	2	3	4	5
11	In this care home there are strictly enforced rules and procedures for handling residents, equipment or materials.	1	2	3	4	5
12	Management here make an effort to involve care staff in assessing the risks associated with the manual handling of residents, equipment and materials.	1	2	3	4	5
13	If a supervisor sees someone not manually handling residents, equipment or materials in the correct manner they are quick to point this out to them.	1	2	3	4	5
14	The care home seems to be making significant efforts to reduce the amount of manual handling which people need to do in their work here.	1	2	3	4	5

**ORGANISATIONAL CONTROL OF MANUAL HANDLING RISKS (CONT)**

<b>Please tick the box which best represents your views on the following statements:</b>		<b>Strongly agree</b>	<b>Agree</b>	<b>Uncertain</b>	<b>Disagree</b>	<b>Strongly disagree</b>
15	Management are always keen to have care staff put forward ideas to reduce the risks associated with the manual handling of residents, equipment and materials.	1	2	3	4	5
16	As long as the job gets done, no one's really bothered about how people manage to do it, even if this means they have to take risks.	1	2	3	4	5
17	If people don't handle residents, equipment or materials in the proper way supervisors are quick to point this out to them.	1	2	3	4	5
18	When the pressure's on, management tend to turn a blind eye to rules being broken, if it means that jobs get done.	1	2	3	4	5
19	The manual handling training that people get here is practicable and workable.	1	2	3	4	5
20	Management regularly talk to us about the importance of correct manual handling practices.	1	2	3	4	5
21	Management generally have a good insight into the manual handling risks associated with the jobs that people do here.	1	2	3	4	5
22	Management regularly conduct audits to check whether people are taking risks when handling residents, equipment or materials.	1	2	3	4	5
23	People here feel confident that the care home has their health and safety interests at heart.	1	2	3	4	5
24	Management place a low priority on reducing the risk of manual handling injuries at this care home.	1	2	3	4	5
25	If anyone here injures themselves when handling residents, equipment, or materials, management tend to show little interest in finding out why this happened.	1	2	3	4	5
26	Management make sure that everyone here is well trained in safe techniques for manual handling.	1	2	3	4	5
27	Management take a keen interest in reducing the risks in the jobs that people do here.	1	2	3	4	5
28	If people don't handle residents, equipment or materials in the correct manner, management will want to know why.	1	2	3	4	5

**IDEAS FOR IMPROVING MANUAL HANDLING**

**If there was ONE thing that could be done to reduce the risks from manual handling at this care home, what would this be?** (Please give details and reasons to justify your answer in the box below.)

**THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.**

**12.3 APPENDIX 3 - PROFORMAS FOR HSE AND LA INSPECTORS**

**All Wales Project to Promote Manual Handling Scheme in the Care and Residential Sector - HSE Inspector Proforma Evaluation Form**

Company name: \_\_\_\_\_ Location \_\_\_\_\_

Status: Residential/Nursing/Duel \_\_\_\_\_ Date Inspected \_\_\_\_\_

Nos of clients: \_\_\_\_\_ Nos of employees \_\_\_\_\_

Inspector's name: \_\_\_\_\_ HSE Office \_\_\_\_\_

General comments on manual handling issues to include:  
 1) Issues dealt with plus a brief description of the activity, process hazard etc;  
 2) Conclusions - consideration of the risk-gap and, where applicable, what was required to reduce the risk-gap to an acceptable level; 3) Details of all enforcement action taken; 4) Any further action.

Enforcement action taken ( <b>send copy</b> )	Yes/No	IN/PN
Health Inspection Risk Rating	1    2    3    4	5    6
Number of employee manual handling lost time accidents recorded in the incident book in the preceding 12 months		

Please answer the following:

I consider the project inspection method was a valuable tool in assessing the standards of manual handling in the care home

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree

The project approach enabled me to effectively assess the risk gap on manual handling issues in the care sector

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree

**All Wales Project to Promote Manual Handling Scheme in the Care and Residential Sector - HSE Inspector Proforma Evaluation Form**

Following to be completed ONLY at joint visit with LA Officer

Company name:

Company location:

Status: Residential/Nursing/Dual:

Date Inspected:

Inspector's name:

HSE Office:

Please provide general comments on the joint visit:

--

Please answer the following:

I found the joint visit to the care home was a beneficial exercise in joined up working
---

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree

The joint visit to the care home promoted improved communication between the LA and HSE
---

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree

The project approach effectively contributed to improved consistency of inspection
--

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree

**All Wales Project to Promote Manual Handling Scheme in the Care and Residential Sector – LA Officer Proforma Evaluation Form**

Company name: \_\_\_\_\_ Location \_\_\_\_\_

Status: Residential/Nursing/Dual care \_\_\_\_\_ Date inspected \_\_\_\_\_

Nos of residents/clients: \_\_\_\_\_ Nos of employees \_\_\_\_\_

Inspector's name: \_\_\_\_\_ Local Authority \_\_\_\_\_

General comments on manual handling issues to include:  
 1) Issues dealt with plus a brief description of the activity, process hazard etc;  
 2) Conclusions - consideration of the risk-gap and, where applicable, what was required to reduce the risk-gap to an acceptable level; 3) Details of all enforcement action taken; 4) Any further action.

Enforcement action taken ( <b>send copy</b> )	Yes/No			IN/PN	
Health Risk Rating (LAC67//1rev1)	1	2	3	4	5
6					

Number of employee manual handling lost time accidents recorded in the incident book in the preceding 12 months

Please answer the following:

The project inspection approach was a valuable tool in assessing the standards of manual handling in the care home

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree

The project approach enabled me to effectively assess the risk gap on manual handling issues in the care sector

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree

**All Wales Project to Promote Manual Handling Scheme in the Care and Residential Sector – LA Officer Proforma Evaluation Form**

Following to be completed ONLY at joint visit with HSE Inspector

Company name:

Company location:

Status: Residential/Nursing/Both:

Date Inspected:

Inspector's name:

Local Authority:

Please provide general comments on the joint visit:

--

Please answer the following:

I found the joint visit to the care home was a beneficial exercise in joined up working
---

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree

The joint visit to the care home promoted improved communication between the LA and HSE
---

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree

The project approach effectively contributed to improved consistency of inspection
--

Strongly agree	Agree	Neither Agree/Disagree	Disagree	Strongly disagree