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Clinical Reasoning for Manual Handling Risk Assessments in Community Settings: Moving from Rule Based to Intuitive Reasoning.

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Abstract

Background: There has been a shift in recent years to caring for patients with complex needs in their homes. In order to provide this care safely, tasks involving moving and handling need to be risk assessed. Little is known about how healthcare professionals conduct manual handling risk assessments (MHRAs) in community settings.

Research Questions and Objective: There are three research questions used to investigate this thesis. To inform the research, "How is safety and risk management legislation (MHOR, MHRA) used by professionals in the identification of hazards and in the risk evaluation of these hazards relating to a manual handling task?" Secondly using these hazards and the risks associated with them the research has considered and has posed the following question, 'in the community setting in what context can hazard identification and risk evaluation data be used and applied by HCPs when dealing with complex cases? ' Thirdly, there is the question,' to what extent and in what ways is clinical reasoning relevant when undertaking MHRA in the community settings.'

Methods: A qualitative design with thematic analysis was used to investigate the research questions. Training Workshops, based on two clinical cases, were conducted with healthcare professionals to determine the hazards they perceived in those cases, how they made risk decisions, and the way in which they communicated their risk information and findings. Semi-Structured Interviews were then used to investigate the effect of experience on the development of clinical reasoning in manual handling risk assessments. Participant Validation Interviews were then conducted on the resultant model and level descriptors.

Main Findings: The findings from the workshops suggest that healthcare professionals should consider Medical Condition, Equipment, Home Environment, Complexity and Community Care when conducting MHRA in community settings. The findings from the interviews suggest three stages (Novice, Competent, and Expert) in the development of clinical reasoning in manual handling risk assessments in community settings. The resultant model and level descriptors were validated through participant validation interviews.

Unique Contribution: This thesis develops a model about how healthcare professionals use clinical reasoning when conducting manual handling risk assessments in community settings. This model is presented as an unique theoretical contribution to knowledge and is based on the HSEs 'Five Steps to Risk Assessment', highlighting the processes of risk perception, risk decision making, and risk communication. The model integrates these processes with cyclical models of clinical reasoning and stages of development in clinical reasoning, yielding level-descriptors. Two methodological contributions to knowledge were made by firstly developing clinical case studies (Personas) that can be used to study MHRAs in community settings, and secondly a specific programme using MHRA training workshops that incorporate the 'Think Aloud' procedure.

Implications: The theoretical implications of the model have to do with how HCPs' clinical reasoning in conducting MHRAs develops with experience from rule-based to more holistic, intuitive-based reasoning. The model also points to a role for Non-Analytical Reasoning by experts, and the development of a safety culture in community care organisations. Practical implications of the model have to do with training, and the integration of health and social care in the community.

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List of Abbreviations

AR	Analytical Reasoning
AT	Assistive Technology
AT Practitioner	Assistive Technology Practitioner
AVERT	A Very Early Rehabilitation Trial
BAC	Bon Accord Care
BAOT	British Association of Occupational Therapists
BHTA	British Healthcare Trades Association
BMI	Body Mass Index
CBR	Case Based Reasoning
CEC	City of Edinburgh Council
CLCF	(The NHS) Clinical Leadership Competency Framework
COT	College of Occupational Therapy
COT	Community Occupational Therapist
CP	Cerebral Palsy
CPD	Continual Professional Development
CRC	Clinical Reasoning Cycle
CSP	Chartered Society of Physiotherapists
CTH	Ceiling Track Hoist
DIAG	Derbyshire Inter Agency Group
DoH	Department of Health
EEC	European Economic Community
EU	European Union
FIM	Functional Independence Measurement
GP	General Practitioner
HASAWA	Health and Safety at Work Act 1974
HATS	Healthcare and Assistive Technology Society
HCP	Healthcare Professional
HCPC	Health and Care Professions Council
HIT	Hoist Identification Tool

IOSH	Institution of Occupational Safety and Health
KSF	Knowledge and Skills Framework (NHS)
LD	Level Descriptors
MH	Moving and Handling
MHOR	Manual Handling Operations
MHRA	Manual Handling Risk Assessment
MHRA	Medicine and Healthcare Regulatory Authority
MHSWR	Management of Health and Safety at Work Regulations
MND	Motor Neurone Disease
MS	Multiple Sclerosis
MSD	Musculoskeletal Disorder
NAR	Non-Analytical Reasoning
NBE	National Back Exchange
NHS	National Health Service
NMC	Nursing and Midwifery Council
NWC	National Workforce Competencies
NOS	National Occupational Standards
OT	Occupational Therapist
PAM	Professions Allied to Medicine
PAMIS	Promoting a More Inclusive Society
PDSA	Plan Do Study Act
POETs	Portfolio of Evidenced Techniques
PUWER	Provision and Use of Working Equipment 1998
PVI	Participant Validation Interviews
RA	Risk Assessment
RCPE	Royal College of Physicians Edinburgh
ROSPA	Royal Society for the Protection of Accidents
RP/ RDM / RC	Risk Perception / Risk Decision Making / Risk Communication
SCI	Spinal Cord Injury
SEHD	Scottish Health and Social Care Directorates

SMHPIS	NHS Scotland Manual Handling Passport Information Scheme (2011)	
SMHPS	Scottish Manual Handling Passport Scheme (2014)	
SW	Social Work	
TILE (O)	Task, Individual Capacity, Load, Environment (Other)	
WHO	World Health Organisation	

Appendices

Chapter 1: Introduction

1.1 Background

This thesis examines an important occupational safety issue and considers this applied problem through the application of clinical reasoning theory. It develops a conceptual model based on the principles of risk management, manual handling risk assessment and on theories of risk perception, risk decision making and risk communication as elements which may be influenced by the clinical reasoning and experience of healthcare professionals practicing in the community setting. The empirical data that is used to refine the model is centred on case study based workshops, group interviews and is validated by participation interviews with healthcare professionals.

There has been a shift in recent years to caring for patients with complex needs in their homes, (RCN, 2012). In order to provide this care safely, evidence shows that tasks involving moving and handling patients in their homes in the community need to be risk assessed. (RCN, CSP, COT) The contribution of this research to knowledge is to develop a cyclical model which starts by building contextually the key requirements around the effective development, content and documentation of this risk assessment process by HCPs. The professionals who participated in the research were being tasked with looking for the specific hazard/risk data that could be relevant in a manual handling risk assessment (MHRA). This process is based on the HSE's Five Steps to Risk Assessment (2011) which is a framework universally used in the compilation of risk assessments throughout the UK but which extends to European and other international settings. It is widely accepted as best practice in this area of study and analysis. Using theoretical and practical data and processes this thesis will consider what factors are required for the effective assessment and implementation of MHRAs undertaken by Healthcare Professionals (HCPs) and then specifically consider these assessments in relation to the community setting. The perception of risk is examined from the individual HCPs perspective and draws on the Psychometric Paradigm to explain this concept. The role of experience of the professional is considered and the research uses Benner's (1984) recognized model of Novice to Expert to make the case for thinking of the different levels of experience

of the HCPs when undertaking MHRAs in the community. The analysis then investigates the wider role and relevance of clinical reasoning as a principle method through which this risk assessment process undertaken by healthcare professionals can be viewed. Models of Competency applied in healthcare are also reflected upon and considered in order to highlight alternative individual qualities of healthcare professionals and to provide a more critical examination of the competency perspective as a potential alternative framework to that of clinical reasoning. In taking this approach it is hoped to establish the importance of the clinical reasoning approach more effectively in the model.

1.2 Justification for Research

This research is placed within the study of risk where risk has traditionally been defined as probability multiplied by impact, but has identified that researchers are increasingly adopting multidisciplinary approaches to risk management problems (Renn, 2008; Taylor-Gooby & Zinn 2006). In studying risk assessment, this research is considering risk perception, risk decision making and risk communication. It is suggested that in the risk assessment process that it is important to differentiate between the terms 'hazard' and 'risk' as these terms are often used interchangeably (Breakwell, 2007). A hazard is something that has the potential to cause harm (HSE, 2013). Risk on the other hand, is the likelihood however large or small that a hazard will cause harm (HSE, 2013). This research considers and expands on the Psychometric Paradigm (Slovic, 1987; 1992) to offer an explanation as to how health care professionals may perceive hazards differently and / or assess the likelihood of hazards to cause harm differently, which makes conducting a MHRA a subjective procedure. Furthermore this research will consider what practical and clinical factors are required to provide effective MHRAs based on identified hazards and evaluated risks in the context of dealing with people with complex clinical needs living in their own homes in the community.

The term manual handling often referred to as the transporting of a load by a person which may involve, pushing, pulling (HSE 2016) tends to be used when referring to an inanimate object. There are hazards associated with this work which require to

be risk assessed. Management Regulations (1999), MHOR (1992). The moving and handling of animate loads, people, patients involves a similar generic or for individuals, a specific risk assessment but recognises that there is a human element in the process. Frequently, the terms manual and moving and handling are referred to interchangeably. Whilst recognising that in healthcare environments workers have to move inanimate loads, for the purpose of this thesis the term moving and handling of people will be used to inform the three research questions which consider MHRA, Community Setting and Clinical Reasoning.

When assessing the hazards and associated risks when undertaking moving and handling tasks the key factors to consider (HSAG 2012/1) are:

- To reduce so far as reasonably practicable the risks to staff and service users associated with manual handling and people handling activities
- Provide the highest quality of patient care
- To ensure compliance with the relevant statutory requirements and standards

In the context of this research a Manual Handling Risk Assessment (MHRA) is a process that considers the moving and handling of a person so that it can be done safely (HSE, 2012). A generalized MHRA in healthcare involves identifying the tasks to be completed (e.g. moving a patient from bed to chair), the individuals performing the tasks (e.g. carers), the load (i.e. BMI of the patient), and the environment (e.g. patient's home) where the task is being conducted (MHOR, 1992). The process of the MHRA is based on the tenets of the HSE's Five Steps to risk assessment. It is the framework of the Five Steps and the link to risk perception, decision making and communicating of risk by the HCPs that is used to inform the initial stages of this research.

1.3 Risk Assessment

The UK's Health and Safety Executive (HSE) investigates industrial accidents from individual accidents to major disasters. It introduces and enforces UK and European legislation in workplaces across all sectors. For example, the HSE had a key role in the development of the Manual Handling Operations Regulations (1992). This legislation is closely allied to the HASAWA (1974) and the Management Regulations

(1999) which recommend the use of a risk assessment when hazardous activities are identified in the workplace and from which there is a risk of harm to people. Risk associated with potential workplace hazards is an inherent part of daily living but managing risk is central to ensuring individual, group, and organisational safety. This can be undertaken in a dynamic and formal risk assessment approach. That is, deal with the immediate issues and move on or look at the hazard/risk through legislation, standards, policies and procedures. The HSE's Five Steps to Risk Assessment is an easily understood, universal, internationally recognised and straightforward method of carrying out risk assessment (HSE INDG163).

HSE (2011) 'Five Steps to Risk Assessment' are:
1) Identify the hazards
2) Decide who might be harmed and how
3) Evaluate the risks and decide on precautions
4) Record your findings and implement them
5) Review your assessment and update if necessary

Most models of risk assessment recognize that it is not possible to eliminate risk, despite the pressure on public authorities 'to adopt defensive risk management.' (Power,2004) p58. There have been attempts to counter these defensive approaches via person–centred risk assessment (Titterton, 2005). Legislation and most best-practice about the moving and handling of patients were developed with acute healthcare in mind. Accordingly, there is a lack of literature about manual handling in community settings, but an abundance of literature about manual handling in acute settings, particularly with respect to musculoskeletal disorders in healthcare workers (Hignett, 2003). 'Compared to other industries, in hospitals "the load is animate, unpredictable, and often offers its own opinions" emphasizing the need for a person-centred approach.' Hignett (2001) p61.

Moving and handling patients is an important topic for research because it is associated with musculoskeletal injuries in healthcare professionals (Hignett, 2003). Such injuries are a major cause of absence, long-term illness and in some cases the reason why some healthcare professionals have to stop working (HSE, 2014). Patients can also be injured during moving and handling tasks like hoisting (HSE,

2011). Based on clinical and scientific knowledge (HSE 2016) it is important for those participating in moving and handling work to consider an ergonomic approach to the tasks being carried out, the load being moved and the environment in which the activity is taking place. Historically since the inception of the NHS in 1948, the provision of healthcare has been predominantly delivered in acute hospital settings. Patients remained in hospital for their post-operative care and for rehabilitation. Long term nursing care of the elderly and additional needs patients was in hospital environments. The patients' clinical needs including their moving and handling was undertaken in ward and department settings. Community care services existed through the network of district nurses but were primarily organised to provide short term care in a person's house. In 1992 with the introduction of the Manual Handling Regulations (MHOR) the acute sector was where the largest concentration of patients and staff were gathered. It was where the greatest need presented for the guidance in assessing moving and handling hazards and their associated risks and for applying strategies to reduce the risk of handling injuries to patients and staff. Moving and handling policies and procedures were developed in line with the legislative guidance. Theoretical and practical training of hospital staff in moving and handling practice was routine and was aimed at increasing their knowledge and skills in this area of their daily work. Training rooms in acute sectors were created to meet this theoretical and practical study of moving and handling principles, good practice techniques which then could be applied in hospital ward and department settings. CSP, COT, RCN (1997), CSP (2005), National Back Pain Association all provided guidance on the way in which patients should be handled in clinical settings. Moving and handling policies were developed to provide staff with guidance from their employers on how they wanted moving and handling procedures carried out in wards and other patient centred areas. The professional bodies (RCN, CSP, COT) provided their members with guidance on how to undertake MHRAs prior to handling patients and the ways in which therapists and other healthcare staff should take "appropriate steps to minimise any risk to the patient and to those delivering the….intervention." CSP (2005) p11.

In a wider occupational context, manual handling (HSE 2013/14) includes activities that involve lifting, carrying, pushing/pulling of loads. The load can be an object or a

person. The Manual Handling Operations Regulations 1992 (as amended 2004), (MHOR), defines manual handling as "…any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force." In relation to this research, statistical reference notes that handling injuries by industry in (2013/14) shows that health and social care had the highest handling injury numbers.

Figure 1.1 compares healthcare to other industries and highlights the clear concerns at Government, Industry and HSE levels around manual handling issues. The need to avoid, assess/substitute or control manual handling hazards and their associated risks is clearly an objective for employers and employees in whatever area of the economy people are working and where moving and handling of loads is a reality of peoples' daily tasks.

Figure 1.1 Handling Injuries by Industry (HSE, 2016).

Today, with most long-term care for patients being provided in community rather than acute settings (RCN, 2012), it is argued that there is a greater need than ever for a model of risk assessment that is specific to community settings. Currently, there does not appear to be such a model. This research in recognising that there are manual handling hazards and risks across all sectors of healthcare is focussing specifically on the moving and handling of clients who are

living in their own homes and who present with moving and handling challenges for their carers in a community healthcare setting.

1.4 MHRA and the Community Setting

The Royal College of Nursing (2012) noted that it has been a priority of government to move patient care out of acute hospitals and into the community. The types of clients being cared for in the community (i.e. in their homes) tend to have complex needs (RCN, 2012). This means that these clients perhaps have a degenerative medical condition (e.g. multiple sclerosis) or disability and co-morbidities (e.g. obesity).Caring for clients with complex needs in their homes requires carers to move and handle them in order to conduct the activities of daily living. Murray (2011) described the challenges that exist around the way in which obese patients with complex needs are managed. Hignett et al. (2007) researched the space required in an acute setting to manage the plus-sized person and necessary equipment. This research has been limited to the acute sector but it is suggested that it can be used to inform the practice of community healthcare professionals or offer a starting point for researchers interested in the challenges of providing care to bariatric clients in their homes.

This thesis has noted the legislative requirements and best practice regarding MHRAs, and that these were largely developed in and for the acute healthcare sector. Despite the growing number of clients being cared for in community settings, there is a lack of research about MHRAs in this context. This lack of research was an impetus for this thesis. To inform the research question it is important to review options around care in the community and to consider it with respect to conducting effective MHRAs in the home environments of clients. Currently a significant policy decision by government is the move towards integration of health and social care, the implications of which are considered in this research. For instance, MHRAs are routinely conducted by healthcare professionals (e.g. community occupational therapists) with the Tasks, Individual, Load, Environment (other), TILE (O) assessment details and their clinical reasoning around the handling tasks being noted by the HCPs in the client's handling plan. It is expected by these HCPs that the social care staff delivering the care will use the details of the MHRA in the way in

which they move and handle clients in their care. For example, plus size clients present with a range of specific moving and handling needs that require assessment based on the clinical reasoning of the HCP to enable the person's care needs to be fully managed (NBE, 2013).

1.5 Clinical Reasoning and Competency

The way in which a clinician considers a problem or deals with an issue as part of their practice can be examined through their approach to their clinical reasoning. Embedded in this research is the consideration of a range of clinical factors involved in the effective assessment when moving and handling of people. To inform the MHRA there is a significant clinical component required which looks at the reasoning used by HCPs when dealing with the complex clinical needs of their clients. Barrows and Tamblyn, (1980), P19, note that clinical reasoning relates to "the cognitive process that is necessary to evaluate and manage a patient's medical problem." The term healthcare professional in current practice extends beyond the medical physicians and encompasses the work of professions allied to medicine (occupational therapists/physiotherapists). The team approach to clinical needs serves to enhance the involvement of different healthcare professionals in managing the care of a client. The Royal College of Nursing, (RCN), (2003), offer advice to their members on levels of competence required in manual handling. This includes advice on the skills needed to undertake risk assessments, the training of staff to an adequate level of competence with support mechanisms in place to assist in the complex clinical situations as part of their health and safety responsibilities in their workplaces. Health Professionals are accountable for their professional practice. (RCN, 2015;HCPC, 2015). They are responsible for undertaking assessments, advising on processes and procedures and for delegating work to support staff. Professional judgement involving social, contractual and clinical actions of a healthcare professional is a key factor in the trust and accountability expected of professionals working with clients who present with specific needs. In the community the responsibility for managing and training social care staff is predominantly with the employers of these team members.

1.6 Research Questions

In section 1.2, the context for the research has been established. The discussion around the moving and handling of people presenting with complex clinical needs in the community has recognised that medically people are living longer and in their own homes and are requiring a greater provision of personal and clinical care. It has also been noted in the delivery of this assistance the importance and the involvement of legislative requirements (MHOR,1992; MHSWR,1999) in the management of this care. The research sets out to consider the hazards identified in caring for a client who needs to be moved and handled potentially using assistive technology equipment in their own home. It has been suggested that the possible slips, trips, falls, lifting, moving, twisting and turning hazards once identified in a person's house should be evaluated in terms of who may be harmed. It is recommended (HSE, 2016) that the effects of these hazards and their associated risks should be noted and their outcomes monitored and reviewed and that recognised processes and procedures are put in place to eliminate, substitute and control these risks. How HCPs as the assessors, perceive hazards, decide on outcomes and communicate these facts is based on the various stages of the HSE's Five Steps of Risk Assessment. It is suggested that this cyclical five steps process acts as the base line of this research model. The extent to which these tasks can be assessed it is argued is dependent on many different factors. It is proposed that the first question to be considered and analysed in this research is 'to what extent is the specific safety and risk management legislation used by professionals in the identification, investigation and explanation of hazards and the risk evaluation of these hazards in a manual handling task?' (HSE, 2016). A second and supporting question is posed, 'focussing' on the community setting in what context can the hazard identification and risk evaluation data be applied by HCPs when using their clinical reasoning to undertake MHRAs with complex clinical cases in their homes?'

The research has identified that there is a defined clinical role for HCPs practising in the community. These professionals can be nurses, occupational therapists, physiotherapists and other HCPC registered professionals. It is noted that the care of clients living at home/community has changed from care givers as district nurses with supporting services coupled with the involvement of other professions allied to

medicine to different HCPs. These professionals are mainly community occupational therapists. They are involved in the risk assessment of clients' needs and have a clinical input into the way in which the outcomes of these assessments are being implemented. The people delivering the care are social care staff, family carers and other community workers. It is argued that this change in the provision of care is a significant factor in developing the research. It has allowed the research to look at the extent to which HCPs use their clinical reasoning to make decisions using the MHRA process when advising on appropriate assistance to their clients in their daily activities in their home setting. It is suggested that MHRA is one type of assessment and that other types of assessments are also undertaken. For example, tissue viability and infection control.

This research sets out to consider the role of the HCP in MHRA in the community, recognising that the home environment is different for each person for whom care is being offered. It is noted that through education, training and knowledge that HCPs gain experience in dealing with clients, their clinical conditions, social, psychological and personal circumstances. In terms of moving and handling, the HCPs perceive, decide and communicate their manual handling risk assessments to their clients, peers and carers based on their experience using their clinical reasoning. The research has considered clinical reasoning as a key determinant in the risk assessment process. To ensure that this is the most robust framework to use and develop in the research process an alternative focus has been examined using the role of competency models to explain in terms of experience the role of risk perception, risk decision making and risk communication in this assessment process. A third research question therefore considers 'to what extent and in what ways is clinical reasoning relevant when undertaking a MHRA in the community setting?'

1.7 Research Methodology

The research process sets out the pathway which was followed to inform and answer the research questions detailed in section 1.6. The HCP is the individual practitioner with a duty of care to a client. The professional has a legal requirement to carry out an assessment of need of a client. Part of this assessment may involve

the moving and handling of the client. If this is the case then the HCP will use the MHRA format stipulated by the professional's employer. This form as a standard requirement is based on the HSE's Five Steps to Risk Assessment and may include as additional supporting evidence best practice from other professional bodies (IOSH, HCPC). The HCP will be involved with the client's care as a clinical need has been established based on a generic client assessment. The client could have self-referred to the clinical services or have been referred by another health professional.

At any clinical assessment the clinical reasoning of the professional will be used to inform the discussion around care, outcomes, review. This research is looking specifically at the role of clinical reasoning in manual handling risk assessment where a client needs to be moved under a specific set of circumstances. It is suggested that the perception, decision making and communication of the individual HCP in the identification process of the hazards and the risk associated with these hazards is the starting point for this research. This research focuses and notes the importance of the individual's perception, analysis and understanding of risk. To inform this view Taylor-Gooby and Zinn (2006) focus on two dimensions (ontology and particularity) to highlight the principal features in approaches to risk. The sociological and psychological approaches differ in how risk is understood (Figure 5.3). The key determinant on the individual's role in risk is the focus on particularity (Renn 2008). The cultural beliefs by involving people as social entities is acknowledged but does not form part of this research. The research turns to the Psychometric Paradigm (Slovic 1987,1992) to explain an individual's perceptions and how these perceptions influence the individual's behavior. The HCPs perception of a hazard and its associated risk, Starr (1969) discusses the rational approach to risk which considers weighing up options before a decision is made with Lerner et al (2000) looking at the emotional circumstances of the person and the valence theory of risk perception.

The research is further informed by considering the structures of consciousness as experienced by an individual. In this case, the first person approach and perception practiced in the role adopted by the HCP carrying out the MHRA when assessing an individual client in their own home setting. The research adopts a phenomenological ontology. This philosophical method considers a person centred

approach to understanding how disability is socially/qualitatively constructed which is implicit in Mattingly's (1991) qualitative perspective that research should look beyond the quantitative hypothesis testing and rule based thinking routinely encountered in healthcare research.

The concept for the research programme was developed out of a discussion with senior healthcare professionals who identified that MHRA was a key part of their community healthcare work but that there was little theoretical or empirical research evidence available on this growing and developing area of clinical work. In discussion with the HCPs it was evident that there were several parts to the discussion. They highlighted that routinely HCPs should use their learned clinical reasoning as evidence to support their decision making around clients and their general and specific assessment needs. As part of their assessment a client may require to be moved and handled in their home setting. This should lead the professional to deal with the specific details in a MHRA. It appeared that there was little consistency reported in the approach taken by HCPs when formally undertaking this particular type of (manual handling) risk assessment.

The detail discussed with the HCP managers offered an opportunity to research this process further. The questions posed at the meeting and the subsequent open discussions were the basis for the research programme. The research design is presented as qualitative data collection with thematic analysis. This was appropriate as the research set out to describe how healthcare professionals use clinical reasoning in MHRAs rather than measure specific phenomena or test specific hypotheses (Cassell & Symon, 2004).

Four case studies were developed with HCP involvement which represented current complex clinical cases which were routinely found in community settings. A pilot study using senior practitioner HCPs was conducted to collect hazard and risk data from two of the case studies which then formed the programme for the cases study based workshops. Thereafter, the first part of the study undertaken in workshops looked at listing the hazards and evaluating the risks from these hazards associated with two clients who are living at home. Clinical reasoning related to the clients as well as outcomes and recommendations was compiled. A key element in the

workshops was the use of Assistive Technology equipment. As part of the workshop research programme the HCPs considered the type, function and use of the products placed in the workshop areas. At this stage the concept of Personas was introduced. (Mulder, 2007) p1 -10. That is, Personas can help to characterise the users of the equipment. This concepts represents an idea of a "hypothetical user archetype" based on the case study details, Obese, Progressive Neurological condition, CP, CVA. The professionals considered the use of these Personas as a supporting mechanism when undertaking MHRA in community settings. The data collected at the workshops was then used by the HCPs to inform their group led think aloud discussions from which key empirical details were noted and from which at a later stage interview questions were compiled. The research was further informed by a thematic analysis of the hazards/risks identified by each group on their case study worksheets whilst they were thinking aloud, discussing common issues and concluding their assessments. Five common themes were identified around hazards, assessing risks, coming to a decision and communicating this information The five factors were Medical Condition, Equipment, Home Environment, Complexity and Community Care.

An inductive approach to coding the data was adopted which recognized that new phenomena was being developed based on the core tenets of risk assessment and clinical reasoning as well as building a model using research questions around the scope of the study. At a later stage, to inform the research a selection of workshop participants volunteered to take part in semi structured interviews. The interview questions were advised by relevant literature, for example the HSE Five Steps to Risk Assessment (2011), Benner (1984), Higgs et al (2006). At the interviews empirical evidence was noted and recorded from professionals at different levels of experience who were independently selected by HCP facilitators within their organisations.

The interview findings were used to investigate the role of experience in clinical reasoning in MHRAs. Each of the five workshop themes were considered relating to the processes of Risk Perception, Risk Decision Making and Risk Communication using participants with different levels of experience. The data was coded using Benner's model of the development stages in clinical reasoning. From the

participants the research identified three stages of professionals (Novice, Competent, Expert). Finally summaries of these Interview findings from the two case studies were tabulated to show the relationship between the three stages of professionals and the five themes in terms of risk perception, risk decision making and risk communication and from this information empirical data level descriptors were generated.

The data from the workshops to the interviews were validated later at Participation Validation Interviews at which the Model, the Level Descriptors and the Personas were presented to the HCPs and their comments noted and analysed. Anderson (2011) suggests that validation of research gives the participants the opportunity to read, analyse, comment and challenge what the researcher has written and to allow consideration for any inconsistencies, or feedback to be provided. The HCPs as a representative sample of the whole research group were being asked to consider and comment on the content, accuracy, hazard and risk analysis of the two cases in the workshops, the outcomes of the interviews and the details in the Personas and the Level Descriptors. The model developed out of this research was presented to the participants to ascertain if the contents of this model could be used in a community setting when dealing with the MHRA of a client with complex clinical needs.

1.8 Contribution to Knowledge

This research makes an important contribution to knowledge, distinctly applying psychological theory to a risk management problem set within the community healthcare setting. The theoretical contribution to knowledge is presented as a model about how healthcare professionals use clinical reasoning in conducting manual handling risk assessments and how this develops with experience from rule based to more holistic intuitive based reasoning. Methodologically the psychometric paradigm underpins this thesis and argues that individual healthcare professionals perceive hazards and risks differently. The discussion extends to consider the positivist and phenomenological approaches that are noted within healthcare studies. Broom and Willis (2007) explain the quantifiable and objective scientific facts relating to the body and biomedical models of disease and conditions. This

positivist method of study looks at the physical object/individual/person and assumes that conditions can be measured and controlled. The phenomenological approach suggests that reality is not objective and that the meaning of events, concepts and objectives is constructed and interpreted by people, through their thought processes and social interactions. Phenomenology (the experience of judgement and perceptions) is the ontological approach adopted in this thesis.

Two unique empirical contributions to knowledge are provided in developing the research. The first is the use of case study based workshops and encouraging think aloud sessions. The second empirical contribution (which supports the proposed model) are four personas (profiles of clients and their situations) that can be used as a tool in further research or training.

1.9 Thesis Structure

Chapter 2 reviews literature about Manual Handling Legislation and best practice literature to explain the need to use a MHRA when carrying out a risk assessment on a client with complex needs. Chapter 3 introduces the community setting, and in doing so makes a case for the relevance of the community/home setting as a key part of the research questions. This chapter points out that despite HCPs working in community settings having similar training as HCPs working in acute settings and both sets of staff belonging to similar professional bodies, NBE or schemes like the Scottish Manual Handling Passport Scheme, relatively little is known about the specific hazards associated with moving and handling clients in their homes. It would appear that there is a scarcity of information on how community HCPs use clinical reasoning in conducting MHRAs in such settings. Chapter 4 examines and informs the research question with the integration of clinical reasoning in the risk management process. At the same time this chapter considers models of competency as an alternative framework to clinical reasoning. The aim of this approach is to show why clinical reasoning is a more effective and appropriate method for answering the research questions. Chapter 5 introduces the proposed model and the research questions by synthesizing the literature reviewed in the previous chapters. To build the constituent sections of the model the chapter revisits the key elements of the HSE's Five Steps to Risk Assessment and considers the integration of Benner's Five Steps Clinical

Reasoning Cycle with the Psychometric Paradigm to explain and discuss how different healthcare professionals may perceive hazards differently. The discussion considers the development of the HCP's clinical reasoning with respect to Risk Perception, Risk Decision Making and Risk Communication.

Chapter 6 presents the research methodology. A rationale is provided for the research design which involves nine phases to investigate the research questions. This chapter then describes and justifies the methods and materials used. Training Workshops, based on two clinical cases, were conducted with healthcare professionals to determine and present in a think aloud method, the hazards they perceive in those cases, how they make risk decisions, and the way in which they communicate that risk information. Semi-Structured Interviews were then used to investigate the perceptions of the HCPs who had identified certain hazards/risks from the case studies and to consider the effect of experience on the development of clinical reasoning in these manual handling risk assessments. The data from the workshops and semi-structured interviews were used to develop a model and level descriptors of clinical reasoning in MHRA. Participant Validation Interviews were then conducted on the resultant model and level descriptors to support and substantiate the gathered and reported on data.

Chapters 7 reports the main findings from the pilot group, the participant workshops and semi-structured interviews respectively, whilst Chapter 8 details the findings from the Participant Validation Interviews. The findings from the workshop suggest that healthcare professionals should consider Medical Condition, Equipment, Home Environment, Complexity and Community Care when conducting MHRA in community settings. The findings from the interviews recommend three stages (Novice, Competent, and Expert) in the development of clinical reasoning in manual handling risk assessments in community settings.

The validation interviews were conducted to go back to a selection of the workshop and interview participants to ask them to comment on the findings. These participants are HCPs, practicing OTs, nurses in the community and are in a strong position to comment and to validate the outcomes from the workshops and the semi structured interviews. It is suggested that the building and presentation of the model is meaningful to these professionals as they can follow the stages in its development and apply it to

their clinical practice in the community. The outcomes from the research, for example the photographs and the narratives are a clear indication of data that can potentially be used in client specific handling plans. The intention is that the photographs and narratives will inform clients of how the MHRA is being used in moving and handling them in different care scenarios. At the same time it is suggested that this detail can be helpful to communicate the outcomes of the MHRA in an understandable and concise way to carers and other people involved in the client's care. The involvement of participating professionals allows for their practical qualitative views and comments to be included in the research process. It is argued that returning to the participants for their comments avoids research bias as the HCPs are being asked their views as opposed to the thoughts of the researcher. The questions posed and the outcomes noted from the PVIs offer an explanation on the role of clinical reasoning as a key determinant in the effective use of MHRA in a community setting. It completes the model as a theoretical contribution to knowledge. Chapter 9 describes and represents the principal discussion points relating to this research by considering the initial research questions and combines this with the literature to analyze the topic of MHRA in the community setting. Chapter 10 is the Conclusion of the research and discusses the theoretical, empirical and methodological contributions made in this thesis.

1.10 Chapter Summary

This chapter has set the context for this research thesis. A theoretical research gap has been identified that looks at the role of clinical reasoning in MHRA in a community setting. It is argued that with a move to the provision of care in the community that there is insufficient research looking into the ways in which clinical reasoning is relevant in MHRA in the community setting. There is empirical evidence of such work in the acute sector but a lack of detail in the community. This proposed research model is based on the HSE's 'Five Steps to Risk Assessment.' It highlights the individual professional's approach to risk (Psychometric Paradigm) through an explanation of risk perception, the process of risk decision making and risk communication. The role of the clinical reasoning cycle it is argued is a key determinant in understanding how professionals come to a view on the clinical

needs and outcomes of their clients for whom they have a duty of care. The role of experience is considered in this whole process to provide the final link in the cyclical development of the proposed research model. The model integrates these processes into a 'Clinical Reasoning Cycle' and 'Stages in the development of clinical reasoning'. The theoretical implications of the model have to do with how HCPs' clinical reasoning in conducting MHRAs develops with experience from rule-based to more holistic, intuitive-based reasoning. The model also points to a role for Non-Analytical Reasoning by experts, and the development of a safety culture in community care organisations. Practical implications of the model have to do with training, and the integration of health and social care with the principles of this care extending nationally and internationally. This thesis concludes by suggesting a model that considers the extent and the relevance of clinical reasoning when HCPs conduct manual handling risk assessments in community settings.

Chapter 2. Literature Review: Legislation, Safety and Risk

2.1 Introduction

In a person's defined workplace, where there are more than five employees working in an organisation there is a legal obligation on the employer to have in place a current and reviewed Health and Safety Policy. (HASAWA) (1974). As part of this occupational safety and health process, hazards in the workplace should be identified by a competent person and the risks associated with these hazards evaluated to ensure that those who may be harmed are protected. This is achieved in the workplace through a range of dynamic, generic and specific risk assessments. Identified hazards and their risks should be, where possible, eliminated, substituted or controlled. (MHSWR) (1999). In the context of this research the workplace for the HCPs and the carers delivering the care is the house, the community setting of the client/s on their caseload. This research is considering the importance and the relevance of risk assessments undertaken by HCPs to ensure the safe moving and handing of patients in the community. It is suggested that the legal basis for risk assessment is an appropriate starting point to consider the significance and application of the current European and UK legislation in supporting the theme of this research.

2.2 Legislation

The European Union (EU) (1992) influenced the UK's health and safety legislation and practice with the introduction and implementation of a set of Directives, referred to as 'the six pack'. This new set of defining regulations in which employers and others were required to undertake risk assessments was supported by guidance and approved codes of practice (ACOP). They extended and enhanced prescriptively the Health and Safety at Work etc Act (1974). The key pieces of legislation related to MHRAs are: 1) the Health and Safety at Work Act (1974), 2) the Management Regulations (1992) and (1999), and 3) the Manual Handling Operations Regulations (1992). There are many other items of legislation related to MRHAs (e.g. Provision and Use of Working Equipment Regulations (1998) (PUWER), Lifting Operation and

Lifting Equipment Regulations (1999) (LOLER), Human Rights Act (1998) but an in-depth consideration of all legislation is beyond the scope of this dissertation.

The key elements of legislation are outlined to provide the relevant context for their use in the research when considering the moving and handling of clients by carers in the community setting.

2.2.1 Health and Safety at Work Act (1974)

The Health and Safety at Work Act (1974) Section 2 specifies that employers should 'ensure so far as is reasonably practicable' that the health, safety and welfare of employees is considered in the work that they undertake. With respect to moving and handling patients, the employers of healthcare professionals have a duty of care to their employees to provide and maintain a safe system of work. This could include providing appropriate lifting and hoisting equipment, and appropriate training in using that equipment.

2.2.2 Management Regulations (1999)

The Management of Health and Safety at Work Regulations (1999, Section 3) places a requirement on employers to carry out 'suitable and sufficient' risk assessments. Employers have a duty to make arrangements based on the outcomes of these risk assessments to implement necessary control measures depending on the identified hazards and evaluated risks. The employers require to appoint competent people to carry out the assessments and to arrange appropriate information and training for those most likely to be involved in the work under consideration. Regulation 4 maintains that there should be a 'coherent overall prevention policy which covers technology, organisation of work, working conditions, social relationships and the influence of factors relating to the working environment.'

2.2.3 Manual Handling Operations Regulations (1992)

The Manual Handling Operations Regulations (1992) introduced a risk assessed approach to manual handling tasks. If a moving and handling issue is identified in the generic assessment of a patient, then MHOR (1992) requires that a MHRA be conducted which considers the Tasks, the Individuals performing the tasks, the Load (BMI of the patient), and the Environment where the task is being conducted.

Hignett (1994) recognised this TILE approach to MHRA but highlighted its limitations with respect to the complexity of tasks in healthcare situations. MHOR (1992) also points out employees responsibilities, requiring them to follow any safe system of work that will reduce risk to them.

2.3 Best Practice in MHRAs

The previous section described the legislative requirements to conduct MHRAs. This section reviews some of the best practice guidance documents from professional bodies about MHRAs. Many healthcare professionals like nurses, physiotherapists and occupational therapists, are registered members of professional bodies like the Royal College of Nursing, The Chartered Society of Physiotherapy and the College of Occupational Therapists. These professional bodies offer advice and support to their members on moving and handling policies and procedures which are based on legislative requirements. Many of these professional bodies suggest eliminating, substituting or controlling the hazards and associated risks of manual handling as the best advice that can be offered to their members. Table 2.1 provides a summary of the best practice guidance documents from professional bodies about MHRAs.

Table 2.1: Summary of Best Practice Advice about MHRAs

Professional Body / Scheme	Summary
All Wales NHS Manual Handling Training Passport and Information Scheme (AWP) (2009)	• Coherent and uniform base line for moving and handling training throughout the NHS trusts in Wales. Standardised paperwork, forms and records. • Staff who relocate are able to take the relevant moving and handling training and information with them • HCP individually create a bank of stored information, knowledge and experience which they can build on through additional courses and in service education • Adds to staff CPD and life- long learning portfolios. Increase in staff confidence when dealing with moving and handling tasks. A set of skills which are recognised by existing and new employers • Skills can be cascaded to colleagues • Direction and guidance is offered to moving and handling trainers on the frequency of courses, duration and content. The section on training within the passport is flexible and builds on a framework which is offered to trainers to develop their courses • Other sectors in healthcare, social services, residential and nursing homes and third sector are aware of the AWP
NHS Scotland Manual Handling Passport Information Scheme (2011)	• Scheme was based on aims and objectives of the All Wales Passport Scheme • It applied to the NHS in Scotland. Local Authorities were encouraged to participate • The Scheme's objectives were to ensure consistency in manual handling education across Scotland • Enable staff to transfer their skills without the need for additional education and training when changing jobs across the participating healthcare sectors

Professional Body / Scheme	Summary
Scottish Manual Handling Passport Scheme (2014)	• Updated version on the 2011 Scheme and extended to include other healthcare providers • Compiled in collaboration between health and social services to assist in reducing the risk of injury from manual handling tasks and manoeuvres in the healthcare workplace. The scheme is designed to provide a framework of manual handling training. • aim of the SMHPS (2014) is to "clarify the minimum requirements for manual handling education arrangements across these sectors…to promote a national consistency." • Key elements: management, resources and systems, identification and learning, policy framework, planning and recording of training • Raise the quality of care provided and allow staff the opportunity to transfer their moving and handling skills between the organisations who are participating in the passport scheme. • Using consistent management processes and training procedures advised in the scheme that this embodies a reasonably practicable approach to complying with the relevant legislation on Manual Handling

The Royal College of Nursing Scotland Chartered Society of Physiotherapy College of Occupational Therapists	• CSP, COT, RCN (1997) undertook a collaborative study on how to move and handle patients. • Consistent advice and practice from an inter related group of healthcare professionals bodies and their members • Relevant to the joint working of professionals when caring for a client with complex needs • Creating an awareness and understanding of the different aspects of care provided by various professionals dealing with the specific needs of individual patients and clients
National Back Exchange	• NBE is an international organisation of healthcare and related professional people who are involved in practising the principles of moving and handling people in the acute and community sectors. • Practical evidence based advice to members on the holistic approaches needed to moving and handling across health and social care sectors • Best Practice Advice provided by specialists in moving and handling manuals, through conferences and exhibitions, workshops and study days • Sharing ideas, commenting on successes and challenges in delivering effective moving and handling training to a diverse group of healthcare workers • Networking and local support groups for members

Professional Body / Scheme	Summary
Occupational Health and Safety Advisory Service (OHSAS)	• OSHAS system is recognised worldwide. It offers appropriate and related courses covering the theoretical and practical application of risk assessment in the workplace. • requirements for occupational health and safety management best practice • provides health and safety information, guidance and resources to support the 18000 and 18001 standards.
Institution of Occupational Safety and Health (IOSH)	• IOSH works at informing and influencing stakeholders on health, safety and welfare issues at an operational and strategic level covering all employment sectors. • Provides best practice advice, support to members working in health and social care • Networking at local and national meetings, conferences and exhibitions
British Healthcare Trades Association	• The professional body which acts on behalf of the companies involved in advising, supply and maintaining equipment in the healthcare sector • The Assistive Technology (AT) Industry supports and invests in new product development to improve the equipment used with clients with additional needs • Collaborative working with HCP bodies on new product development to enhance the equipment and services provided to clients
Healthcare and Assistive Technology Society (HATS)	• Individual staff from BHTA members companies register with HATS as trusted equipment advisors • Best practice in the supply of equipment to the customer and clients based on an approved code of practice • Working with Trading Standards and the Professional Standards Authority to continually improve in the provision of best practice in health and social care

2.4 Other Legal Considerations

There are items of legislation that sit alongside those directly involved in manual handling. These Acts, ACOPs, Guidance notes highlight the importance of education and training for professionals in their content as well as an overall awareness of how they are applied by law in relation to MHRAs. Incorporating the legal facts into an assessment ensures that all aspects of the law are carefully considered as part of any decision making process involving a client with complex clinical needs being cared for at home (HOP 6, NBE 2013). To show how the law impacts on different areas associated directly and indirectly with Moving and Handling practice a selection of these acts are now discussed.

In the community it is necessary sometimes to alter a person's home to meet the clinical needs of the person. Doors may need widened to allow a larger wheelchair to be moved from room to room, an extension to a ground floor room could be suggested by the moving and handling advisor, occupational therapist or district nurse to allow for a more accessible room with appropriate sized ensuite toileting and showering facilities to meet a client's personal care needs. This area may require the technical and structural installation of a room cover ceiling track hoist and a range of other assistive technology equipment to provide the most effective moving and handling options to the client and carers. As previously noted, the MHOR, the Management Regulations apply in their own right in such circumstances. However, this work requires funding which is not always provided in full by the supporting services and their employers (NHS and Social Services). To meet the identified moving and handling needs noted in the MHRA this equipment, the alterations in full or in part may need grants to be provided to the client. Such grants are available to assist in the provision of this work. The criteria and conditions for the award of grants is contained in the Housing Grants, Construction and Regeneration Act 1996. This ensures a fair and reasonable approach to dealing with an identified building issue whilst still recognising the importance in this decision making process of the moving and handling regulations.

The law sets out clear guidelines on how it protects the rights of disabled people from discrimination in the Disability Discrimination Act 1999. The common law of negligence is not found in the legislation but is decided in the courts of law. The main tenet of this common law relates to harm suffered by a person. This could be psychological, physical, social of financial harm.

There are many other articles of legislation that can impact on the client with complex clinical needs who is cared for at home. The legislation exists to ensure that decision making in this area of the law is considered through a balanced and reasonable approach. (Care Act 2014) (Safeguarding Vulnerable Groups Act, 2006) (Mental Capacity Act, 2005). It considers the needs of the care givers as well as the rights of the service user. (Carers [Equal Opportunities] Act, 2004). It is suggested that the MHRA and the subsequent care plan and manual handling plan for the service user captures the key details around the client's moving and handling needs. It is argued that a key part of the MHRA process is the perception, decision making and communication of risk by the HCP who uses clinical reasoning, education and training experience in moving and handling to provide an assessment to meet a client's needs living at home. These could be clinical needs, moving and handling needs or other requirements discussed and noted as relevant to the person's assessment. Where there is a dispute or disagreement over a moving and handling (or other) decision it is suggested that the reasoning of the professional can be used to inform and include the client in the recommended outcomes. It is hoped that this approach will offer an explanation to the client as to why such a decision has been taken. In line with all decisions that need to be taken in a person's lifetime, the law can be used advisedly to guide and ultimately decide on a certain point possibly by precedent on how an identified problematic situation may be resolved. (HOP 6, p15, 2011; Mandelstam 2002).

2.5 Chapter Summary

This chapter has introduced the legal framework relating to risk and risk assessment. The discussion has looked at the role of the employer in the HASAWA

(1974) where there is a legal responsibility to provide a safe environment in which people (care staff) can work. The Management Regul ations (1992) look to employers to carry out a risk assessment where hazards are identified and risks associated with these hazards are evaluated so that the risks can be eliminated, substituted or controlled. It determines that those most at risk of harm are guided in what they should do to maintain their safety in the workplace. This research is considering the community as the workplace and the people who may be harmed as the service user, the care givers and the HCPs. It is the HCPs with their clinical knowledge and through their clinical reasoning who use the TILE (O) approach to ensure that reasonable steps are taken to safeguard all the key people in the home of a client. There are other Acts, Regulations, Codes of Practice and Guidance notes that can be used to inform the risk assessment. The research discussion on the relevant legislation has used a mix of risk assessment criteria. The basis of the research considers three research questions which deal with MHRA, community setting and clinical reasoning and suggests opinions on the extent to which and the ways in which clinical reasoning is relevant in manual handling risk assessments in the community.

Chapter 3 Literature Review: Community Setting

3.1 Introduction

This discussion now develops and explains the relevance of the community setting in the research process. The community setting in the context of this research relates to a person's home environment. This view of the community was accepted by the professionals who attended the workshops. It is an environment where they work and is a true representation of the shift from the acute setting of the hospital to the community setting of a person's home. It is recognised that the community is sometimes referred to by professionals as supported care and accommodation and in general terms can be described as anything that is not the acute sector. The Royal College of Nursing (2012) noted that it has been a priority of government to move patient care out of acute hospitals and into the community. (Griffiths Report, 1988; National Health Service and Community Care Act 1990; Care Act 2014). The RCN is keen to support initiatives designed to move care closer to patients' homes where it is clinically appropriate to do so. Furthermore, people are living longer but importantly are presenting with, in many cases, co-morbidities. (Cavendish Review, 2013). In spite of national undertakings to achieve a shift to the community, it has been suggested that there has been limited tangible investment to facilitate the shift away from the acute sector.

The Royal College of Physician's Edinburgh (RCPE) (2012) has reflected on the delivery of healthcare in the acute/community. The College has considered the different pressures on acute beds and the move to community based care. In their report they accept the financial challenges facing the healthcare system in the UK. They raise concerns about the reduction on the reliance of the acute sector and as such they agree with the shift of care into the community setting but not at the expense of quality of care of the end user. The personal touch of a person's home can't be easily matched in the clinical and sometimes stark and unfamiliar surroundings of a hospital ward.

Prior to a client/patient moving from an acute ward to a primary care setting a range of clinical assessments will be carried out by Health Professionals. These assessments could potentially include Nursing, Occupational Therapy, Physiotherapy, Nutrition, Speech and Language Therapy. For the person with complex care needs there may be a multidisciplinary team approach to such MHRAs. This will probably be carried out by team members using the TILE (O) risk assessment to identify key factors that need to be in place at home before a discharge can be achieved. Imbued in the assessments will be the clinical reasoning of the HCP in relation to the client's medical, social and other needs. This research is considering in what ways is this clinical reasoning relevant in a MHRA and in particular what is meant by the community in this whole risk assessment process.

3.2   Community Setting: Intermediate Care

Where there are healthcare challenges to someone staying in their own home, a package of Intermediate Care (NHS, 2015; Age UK, 2015) is available which focusses on prevention, rehabilitation, re-ablement and recovery of a client. This service avoids hospital admission where possible. However, when it is appropriate and reasonably practicable to do so, the patient may be considered for discharge home. Potentially, delays in discharge from an acute setting can be due to a lack of suitable facilities in the community. Social Work/Services are responsible for such delayed discharges and may if appropriate accommodate a client on a short term basis in a care home setting with rehabilitation services. (Community Care (Delayed Discharges etc) Act 2003. The aim is to facilitate a move from the care sector back home once a package of care is in place. Intermediate Care Framework for Scotland Joint Improvement Team (2014) p1. Equipment provision is part of this assessment along with the moving and handling risk assessment needs of the client. The aim of the service is to "integrate, link and provide a transition (bridge) between locations, between different sectors."

The Health and Safety Executive (2007) argued that the specific manual handling needs of a client in the community can be assessed by a range of qualified competent professionals. These include occupational therapists, physiotherapists,

manual handling advisers and ergonomists with knowledge and experience in health and social care. NHS staff predominantly work in the acute sector but the district nursing service and some other professions allied to medicine are based in the community and form an important and integrating part of the NHS primary care teams. Agenda for Change (2004) is relevant to and governs all these NHS employees. The role of competencies is outlined in this specific NHS policy and is defined by the different frameworks that exist to measure the effectiveness and competencies of staff.

In this research the community occupational therapists were the largest participating group of HCPs. These therapists are employed by Social Work where the terms and conditions for the Agenda for Change programme (NHS) does not operate at present within their organisations. This detail was examined and discussed in detail at the participant validation interviews. There are some examples of social work competency standards (Department for Education, 2014) but currently a skills and knowledge framework is not universally integrated throughout the social services sector.

As previously mentioned all HCPs are registered with their appropriate professional bodies (RCN, COT, CSP). At an individual level it is assumed that moving and handling of clients presenting with complex needs in a community or acute environment will require HCPs to assess them. The HCPs in daily healthcare practice evidence their clinical reasoning and measure it using education, training and experience skills. However, in the absence of a community social work competency framework it is unclear how a comparison can be made between the NHS acute/community and social work community professionals and whether these competencies are transferrable and manageable between healthcare sectors and organisations.

The changes to the delivery of care from acute to community has created a need for employers to provide suitable and sufficient policies and procedures for the moving and handling of people. (Ruszala and Alexander, 2015). The precedent for these policies originated from the work that had already been documented in the acute sector. However, the tasks and the environment in a person's home vary from those undertaken in a hospital ward. Also, there have been changes in the

personnel delivering the care. Nurses undertake health tasks and carers provide social and personal care to clients at home. This has produced a completely different set of education and training challenges around the application of the risk assessments and the use of equipment in the community (BackCare 1999; RCN, 2012). This approach highlights that care in the community may require a healthcare professional to be closely involved in a person's care or it could be that the professional decides that a carer with some training can deliver the care that is required. There are implied competencies required in both situations. That is, there is the need for the professional to confidently and competently explain his/her clinical decision making reasons for taking certain decisions/ action relating to the client. Equally, the carer being asked to carry out these identified tasks by the professional needs to be competent to undertake this work satisfactorily. Backcare (1999) noted that there is limited current researched information on relevant practice and procedures in the community relating to manual handling issues. The colleges, associations and societies for the professional bodies have generic manual handling details for their members to use in relation to their professional practice. It wasn't until recently though that this issue has gained further attention (e.g. National Back Exchange, 2013).

3.3. Community Setting: Integrating Health and Social Services

In the United Kingdom, healthcare services are delivered by the NHS, Social Services, Third Sector organisations and care agencies. There are broadly similar policies and procedures to supply this care, but in Scotland for example, healthcare is a devolved responsibility from the Westminster Government to the Scottish Government. This research was carried out in Scotland. It is suggested that the programme of research activities could apply in any community setting. Healthcare is an universal activity governed by statute, practised in private and public sectors and geographically meeting the identified clinical need of patients/clients anywhere. The legal framework for the provision of healthcare and social work services in Scotland is presently contained in The National Health Service (Scotland) Act 1978 which outlines the duties to provide medical, nursing and other services. The Social Work (Scotland) Act 1968 requires local authorities to promote social welfare

and to provide and make available advice, guidance and assistance and the assessment of needs to those requiring the services of the local authority departments. Prior to proposals for integrating services, within the present legal framework, it is the local authorities who are the coordinating sector amongst all the other inter agencies involved in the assessment of the community care needs of clients (Audit Scotland, 2000). The details highlighted on partnership working, commissioning of services investment, cooperation and the provision of Assistive Technology equipment is applicable throughout the UK and extends to other European countries.

The Scottish Government (2012; 2014) stated it is committed to partnership working amongst agencies with the aim of supporting, advising and assisting, service users, carers, local authorities, the NHS, and others to improve community care services across Scotland. A common joint commissioning definition was created by the Scottish Government (2012) across health and social care when dealing with the strategic commissioning of services for all the activities involved in assessing and forecasting needs. This included the linking of investment to agreed desired outcomes, considering options, planning the nature, range and quality of future services and working in partnership to put these in place. Joint commissioning relates to where these actions are undertaken by two or more agencies working together, typically health and local government, and often from a pooled or aligned budget. These proposals have implications for manual handling of clients in a community where they require input from health and social work professionals. The intention from the government is for joint assessment, sharing of resources and the provision of hoists and accessories along with other moving and handling equipment to meet the needs of the service users.

The cooperation of local authorities, health and other agencies in the provision of care in the community is highlighted throughout the aforementioned legislative guidance process and procedures. Specifically, sections 13 and 13a, NHS (Scotland) Act (1978) promotes and encourages joint working between and amongst agencies to secure and improve the wellbeing of the clients who require the input from the services. This could be in an acute or a chronic pathway. Likewise, within Section 4 Social Work (Scotland) Act 1968, there is a similar agreement

from the social work and NHS staff to collaborate and assist in the provision of care services to clients in the community. It is suggested MHRA should be an integral part of the processes and procedures followed by staff dealing with the manual handling of clients with complex needs in the community. The compilation of the MHRA is usually the responsibility of the healthcare professional (e.g. Community Occupational Therapist). The HCPs having conducted the MHRA, write up the handling plan and then advise the care agencies, who deliver the care, on how to apply and use it with the client (NBE 2015).

3.4 Community Setting: Assistive Technology Equipment

A significant element of meeting the requirements of a client with complex clinical needs in the community relates to the risk assessment outcomes of the HCP whose clinical reasoning and knowledge of the equipment are combined in the advice, supply and maintenance of Assistive Technology equipment used in the person's home setting. The model, size, safe working load of equipment in the community has to be considered in terms of the tasks being carried out, the individuals delivering the care, the weight of the person and of critical importance the environment where the equipment is being used. Most people living at home with complex medical conditions will require a range of inter related equipment to meet their moving and handling, nursing and personal needs. (Donnelly, 2011). The Government (CCD5/2009) are looking to assist local authorities and their NHS partners to modernise and integrate services. They hope to achieve this by using the discretion and experience of the practitioners in the provision of a consistent approach to the assessment and supply of equipment and adaptation services in the wider community care context. Within a community setting people of all ages require the use of specific equipment to enable their sometimes frequently changing needs to be addressed and subsequently met with the provision of an item of Assistive Technology (AT). Taylor et al., (2007). The Scottish Government (2009) believe that equipment and adaptations are an important part of an integrated community care service. With the use of AT equipment clients can sometimes achieve their individual activity goals and remain independent in their

own homes for as long as possible, enabling them to achieve the quality of life they wish as well as being a cost effective model of intervention.

Graham and Rhomberg (1996) argued that a risk assessment could be used to settle conflicts which may exist between different groups. With respect to this research, it is suggested that this could be about healthcare and social work organisations clarifying their responsibilities to ensure that integrated care is provided to clients in the community throughout the UK.

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3.5 Community Setting: Organisational Factors

As previously mentioned, it is HCPs like Community Occupational Therapists who carry out MHRAs in community settings. Based on their MHRA, they write up a handling plan for a client and then advise the care agencies, who deliver the care, on how to apply and use it with the client (NBE, 2015). It is important to note that MHRA carries equivalent legal weight in the acute and community sectors as it is the same rules and regulations (MHOR, 1992) that apply to all manual handling tasks. Healthcare Professionals working in the NHS Acute or Community Social Work organisations are members of professional bodies (e.g. College of Occupational Therapists, Royal College of Nursing, Chartered Society of Physiotherapists) and are registered with the HCPC. These colleges and societies have professional standards of conduct, performance and ethics to which members must adhere. The HCPC incorporates health and care into its remit and therefore regulates all the sectors registered with the Council through its competencies, proficiency and performance frameworks.

The standards adopted by the professional bodies (e.g. RCN, COT, CSP) recognise that their members are employed by different organisations but they do not differentiate between the organisations when offering advice to their members. Equally, the HCPC looks at the individual member working within an organisation practising their skills and applying their clinical knowledge, education and training within the competence levels dictated by their job function. Health Professionals can move between employers using their qualifications and registration. In fact, the

Scottish Manual Handling Passport Scheme (2014) is an example which encourages this process in line with moving and handling training, transferring with the person (SMHPS 2014), (All Wales Manual Handling Passport and Information Scheme), (2009).

Barry (2007) compiled a report for consideration by the Scottish Executive in which the research reported on "Effective Approaches to Risk Assessment in Social Work." Subjects under consideration in this report ranged from Risk Assessment in Criminal Justice, Risk Assessment in Child Protection to Risk Assessment in Community Care. In the context of this thesis, the community occupational therapists who participated in the interviews are employed by the social work departments in the local authorities around Scotland.

The Changing Lives (2006) report relates to a review looking at the role, scope and involvement of Social Work in Scotland in the 21st Century. The principles of the review identified that workers were "lacking in confidence, had become increasingly risk averse, stifled autonomy and lacked appropriate support." The executive summary of the report highlights that within Social Work there are differences in risk assessment approaches. The report identifies that there is a need for professionals to use a common language in relation to risk assessment between professionals. How risk is defined, assessed and applied in the community needs to be clear and concise. How details are shared on risk assessments between agencies requires further discussion. Finally, consideration is required as to whether it is possible to develop a nationally agreed risk assessment tool based on set procedures following a common understanding of the subject and considering the language used when carrying out a risk assessment.

Compared to the NHS approach to risk management the 'Changing Lives' (2006) report (2006) highlights that "Medical staff, for example, may have the concerns of the family or wider public in mind whereas social work staff, carers and user led organisations may give greater representation to the needs and rights of the service user." In the community setting there are a range of professionals, GPs Nurses, Therapists, who are working for different organisations. Perhaps these professionals have different objectives and remits. They are accountable to stakeholders all of

whom may have a different approach and attitude towards risk making decision within their organisations.

Of significance, Barry (2007) observes that training in risk assessment and the information that is noted is critical when carrying out community work. The main tenet of this argument is that there should be a consistency to the approach taken to risk assessment. In addition, in the event of having to defend a decision there is a pathway of information that can be followed and reviewed if required. There is also preferably one document which different professionals can access, update, change and add to as appropriate.

At present, the NHS and Social Work departments collaborate on many different systems, policies and procedures. Currently, integration policies between healthcare and social care organisations are presently being developed and implemented. This research did not consider in detail specific organisational factors. Instead, it was appropriate for the research to focus on how individual HCPs in these organisations use their clinical reasoning in conducting MHRAs in a community setting. It was thus assumed that organisational factors would not play a major role in how individual HCPs use their clinical reasoning in conducting MHRAs in a community setting given that they are trained and work to similar standards, being HCPC registered and members of similar professional bodies / colleges.

A key factor in the discussion around the role of HCPs in the development, noting and implementing a MHRA in a community setting is the combination of professional skills that are required to undertake this work. The HCPs through their education and training recognise that Manual Handling Risk Assessments are governed by legislation which involves a risk managed approach to solving moving and handling tasks. Embedded in the work of a HCP is the duty of care to the client and the understanding of their medical diagnosis and prognosis. The gathering of relevant clinical detail about the client, their current and future needs is part of a much larger picture around their wellbeing, function, lifestyle and for this specific research their community environment and settings.

3.6 Summary

This chapter has considered what is meant by the community in relation to the three research questions which consider MHRA, community setting and clinical reasoning. The priority of government has been and continues to be that of facilitator in the move of care from the acute to home/community setting. The professional bodies (RCN, COT, CSP, Royal Colleges) are supportive of this move but stress the need for adequately resourced services and that the changes to the provision of care should not be at the expense of the quality of care to the end user. The joint working of health and social services and the development of intermediate care are examples of processes which have been introduced to assist in the transition of the models of care from the acute to the community setting. The role of the community HCP has been at the centre of this discussion. In particular the discussion has considered the clinical reasoning of the HCP when carrying out a MHRA of a client at home or in a transition stage directly from hospital to home or through intermediate care. This research has focussed on the community HCP, their clinical reasoning and their role in maintaining a person at home with specific clinical needs.

It is argued that the care package based on the clinical views of the HCP is important in determining the provision and use of AT equipment and the role of the care givers in its practical application and use. The joint working of all professional groups in integrating the care, implementing the care plan which includes the handling plan is an important element in the care offered to a client. Imbued in this whole approach are the clinical reasons why a person can remain at home and the relevance in the use and application of clinical reasoning in the MHRA when delivering this care.

Chapter 4: Literature Review: Clinical Reasoning and Competency

4.1 Introduction

This Chapter continues the theoretical argument by building on the relevance and applicability of the legal and community setting when conducting a MHRA. It now sets out to explain why the clinical reasoning of a HCP is so significant when assessing a client in their home environment. It is suggested that the clinical needs of the client are a key component in the moving and handling risk assessment as they lead the clinician to perceive, decide and communicate their clinical reasoning. It is argued that this is based on their experience around the identified hazards and the risks associated with the tasks being carried out by individuals on a person in their own community setting. Models of competency applied in healthcare are considered so as to provide an alternative discussion on individual qualities practised by HCPs in their work. In doing so it is hoped to offer a more critical discussion of the concept of competency versus clinical reasoning. It is hoped that clinical reasoning can be identified as a critical part of the assessment process and as such is determined as an integral part of the proposed model. Thereafter, the research returns to the use of clinical reasoning in MHRA and makes a case for investigating the relevance of clinical reasoning as a key determinant in a MHRA.

4.2 Clinical Reasoning and Competencies

4.2.1 Clinical Reasoning

Clinical reasoning is often defined as the way clinicians think about the problems they deal with in clinical practice (Elstein and Bordage, 1991). It is associated with clinical outcomes (e.g. Aitken et al., 2003) and educators agree that clinical reasoning is important in clinician competence (Norman et al., 2007). There is a lack of research though about clinical reasoning in conducting manual handling risk assessments. This lack of research was the impetus for this thesis.

HCPs attend moving and handling training provided by their employers. There is access to more advance key handler type training and through membership and

involvement of special interest groups, for example, the National Back Exchange. The HCP involved in a moving and handling risk assessment should be knowledgeable about the clinical issues as well as having an involvement in the whole Task, Individual, Load, Environment, (Others). This risk assessed led process is routinely referred to as the TILE(O) approach to moving and handling. In a community setting, it is healthcare professionals (e.g. community occupational therapists) who conduct the MHRAs but it is usually carers who have to use and apply the MHRA in order to move and handle patients safely when carrying out their caring duties. Thus, it is important to understand how HCPs perceive hazards, make decisions about risk, and communicate that risk information with respect to moving and handling clients in their homes. In moving and handling a client, a HCP may recommend that a handling belt, a standing hoist and sling or a transfer system or other Assistive Technology (AT) equipment is used as an outcome from a MHRA. The HCP will have used clinical reasoning in deciding the need for AT equipment as well as its safe use (Medicines & Healthcare Products Regulatory Agency, 2015). Taylor et al (2007) point to the involvement of occupational therapists in the provision of equipment to meet clients' needs. They argue that HCPs use of clinical reasoning is a key determinant in deciding the most appropriate item of AT equipment to deal with the presenting issues. Taylor et al. (2007) maintained that the existing terms and descriptions of clinical reasoning used by occupational therapists are invariably "incomplete." This research is therefore examining the relevance of clinical reasoning in MHRA, specifically with respect to the moving and handling of clients with complex needs being cared for at home. For Charlin et al (2000) it is the clinical reasoning of the professionals, their decision making, their diagnoses of the issues around a client, the communicating of their findings that is a defining part of their clinical competence.

4.2.2 Competency Models

To inform the discussion this research will now consider and investigate competency models as an alternative framework to clinical reasoning. Through a summary and critique of these competency models a case will be made as to why clinical

reasoning in MHRAs in community settings was chosen in place of but recognising the importance of competency in MHRA.

Previously (Chapter 2), the key legislative details on manual handling were discussed which highlighted the necessary requirements to conduct risk assessments. An outline of what constitutes best practice in conducting MHRAs was introduced. The Management Regulations (MHSWR, 1992,1999) stipulate that it should be a "competent person" who undertakes a risk assessment. However, Rose (2011) pointed out that just because a person has a professional healthcare qualification he / she may not have the skills mix and relevant competencies to conduct a MHRA. It is noted (HCPC, 2015), that a clinician should not work beyond his/her level of competence; that is the ability to reach and maintain standards applicable to professional knowledge, understanding and the skills to enable safe and effective clinical practice (HCPC, 2015; RCN, 2015). Healthcare professionals are accountable for their clinical actions. Equally as part of their clinical practice they undertake activities which involve a duty of care to their clients which are embedded in health and safety competencies. The moving and handling of a client involves the MHOR (1992), PUWER (1998), the Management Regulations (1999) and others. As part of a competence structure the HSE (2008) and IOSH (2014) consider competence as part of the management of health and safety to ensure the effective and practical safety and wellbeing of clients as well as those delivering the care (HSE, 2015).

Figure 4.1: Health and Safety Framework (HSE 2013 HSG65)
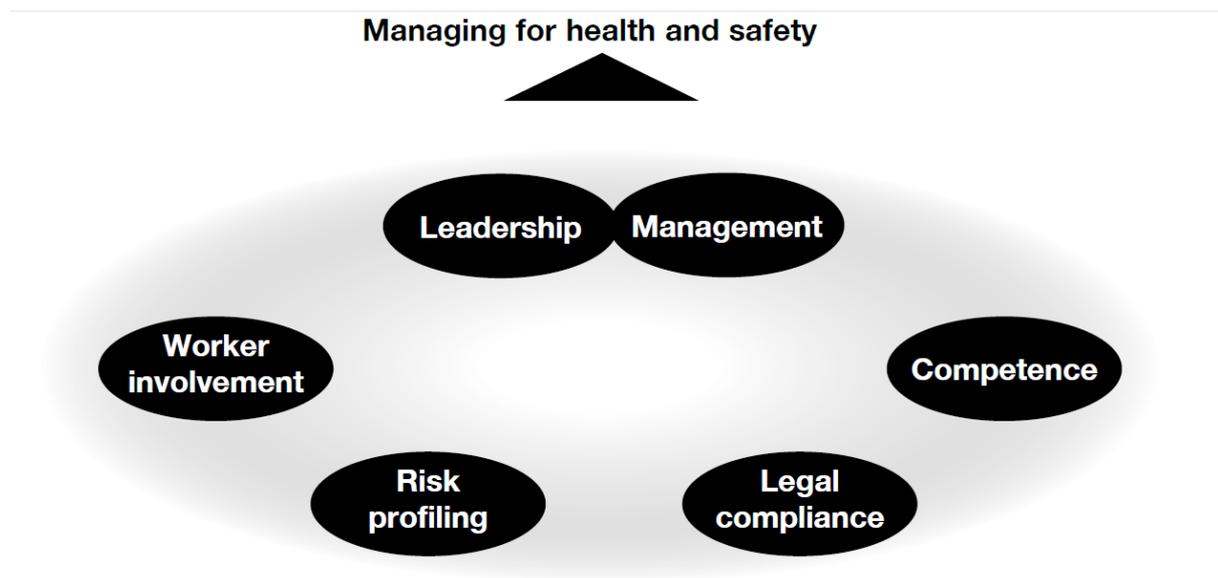
HSE (1993) also argued that Competence is one of the four Cs (competence, control, cooperation, communication) of safety culture. Johnson (2011) noted that recruitment, training and advisory support are key elements in addressing competency in manual handling activities in the workplace. Clearly then, healthcare professionals conducting MHRAs in community settings need to possess certain competencies. IOSH (2011) views competence as doing a job efficiently and effectively by combining knowledge, skill and experience in the work that is being undertaken. Working within a person's limitations and seeking advice from others who are at a different level of knowledge, skill and experience is an important indicator of the level of competence of a person. Competence can be described as "the state of having the knowledge, judgement, skills, energy, experience and motivation required to respond adequately to the demands of one's professional responsibilities" Roach (1992), p148. The HCP carrying out a MHRA has to be competent to do this work, be able to deal dynamically with change in the workplace and have job skills which are flexible and transferable. This way, their level of competence is measured and linked to the guidance given to the HCPs by their professional bodies. The RCN, COT, CSP have a set of primary competencies that they expect staff to routinely carry out as part of their job function. The following examples of these professional competency frameworks can be used to inform the three research questions on MHRA, Community Setting and Clinical Reasoning.

There are examples of inter disciplinary collaboration in the NHS around role development and competency levels (SEHD 2005).

4.3 RCN

The RCN Integrated Core Career and Competence Framework has been developed and is aimed at senior nurses working at bands five to eight. These bandings relate to the Agenda for Change (2004) process. The RCN acknowledges and used the Benner (1987) model of competency which was based on the Dreyfus and Dreyfus model (1980) which considered five levels of competency: Novice, Experienced Beginner, Practitioner, Knowledgeable Practitioner, Expert. Nurses work in the community and acute sector, in private healthcare and as professional advisors in different industry and government sectors. Professional development and practice is a key area of maintaining and improving on their knowledge and skills. The Code: Professional standards of practice and behaviour for nurses and midwives. (NWC, 2015) ensures that nurses, as the largest group of healthcare professionals in the world are properly qualified and competent to practice in the UK.

From April 2016 nurses are required to revalidate their practice at the date of their registration renewal. This is to ensure that nurses are practising safely and effectively and are current with their professional practice and development and are abiding by the Code's standard of practice and behaviour. It is noted that the outcomes will be achieved through continuing professional development (CPD), feedback and reflection as well as revalidation involving practice hours. CPD, practice related feedback, written reflective accounts, reflective discussion, health and character, professional indemnity arrangement, confirmation as well as the upkeep of a portfolio are the key factors ensuring that nurses practice to a competent standard. At the same time work is progressing to build a set of core competences for health care assistants at bands two to four. To address this situation, the RCN are looking at the pathways emerging from Modernising Nursing Careers that deal with post-registration frameworks. The framework sets out to develop the core and specific aspects of the Knowledge and Skills Framework (KSF) which apply to nurses in their day to day practice.

The RCN note that other general functions necessary to ensure safe and effective quality care and services are:

- quality, improvement and innovation
- learning and development
- knowledge and information
- managing care and services.

4.4 National Occupational Standards / National Workforce Competences (NOS/NWC)

For specific training and development in healthcare National Occupational Standards/ National Workforce Competences (NOS/NWC) are facilitated by experts who consider the knowledge, understanding and the level of performance required to competently practice in an area of healthcare (NOS, 2015). It is suggested that Moving and Handling could be considered as one of these fields of practice (NOS: SFHPCS23). The RCN (2009) p5, recognize that the focus of NOS/NWC is the "application of consistent standards of competence." The RCN has developed its framework along with reference to other allied professions to health, patient groups and users of the services. A mapping exercise against different policy agendas and other key influences has been undertaken and this process has been developed in cooperation with Skills for Health, National Midwifery Council and other allied professions in medicine.

4.5 Health and Care Professions Council (HCPC)

Professions Allied to Medicine (PAM) made up of occupational therapists, physiotherapists and other healthcare professional workers are registered with the Health and Care Professions Council (HCPC). There are sixteen healthcare professions registered with HCPC. Competence can be considered within the health professions as "the broad ability with which a professional person is able to practice to the required standards in a predetermined range of clinical fields and across a

range of situations." FICM (accessed 2015). S3, p32. Stuart (2003) considers this in relation to applied clinical performance with Carr (1993) relating competence to professional judgement. HCPs working in the NHS are registered with the HCPC and are bound by their code of practice and conduct. Within the NHS there are initiatives that HCPs can enrol into as part of their clinical and personal development. The National Leadership Council (NLC) considers that it is vital to promote leadership development for all clinical professions that work in health and care. It sets out to guarantee that leadership competences will be incorporated into education and training for all clinical professions and further aims to establish a stronger foundation for developing leadership capability across healthcare in delivering the changes needed to meet future challenges. One such competency initiative is the NHS Clinical Leadership Competency Framework (CLCF).

There are five core domains of the CLCF framework:

1. demonstrating personal qualities
2. working with others
3. managing services
4. improving services
5. setting direction

For example, if a HCP is undertaking moving and handling tasks then the HCP should have the necessary skills to undertake a MHRA. Implied in this process is a level of assessment to evaluate the person's core competencies in line with the guidelines of their professional society/college or association (CSP, COT, RCN).A further competency initiative delivered by The Institute of Medicine (2003) considers how health professionals should interact and overlap when undertaking patient centred care in a multidisciplinary team. They believe that this working together regardless of which profession they belong to is important in meeting the needs of current demands in healthcare. Competency is more than just technical skills, (which implies a more quantitative approach to the measurement of a person's skills and ability to do certain tasks) compared to a more qualitative approach which includes cognitive reasoning and critical thinking. (Benner, 1982; Epstein and Hundert 2002).

Figure 4.2: Overlap of Core Competencies for HCP (Institute of Medicine, 2003)
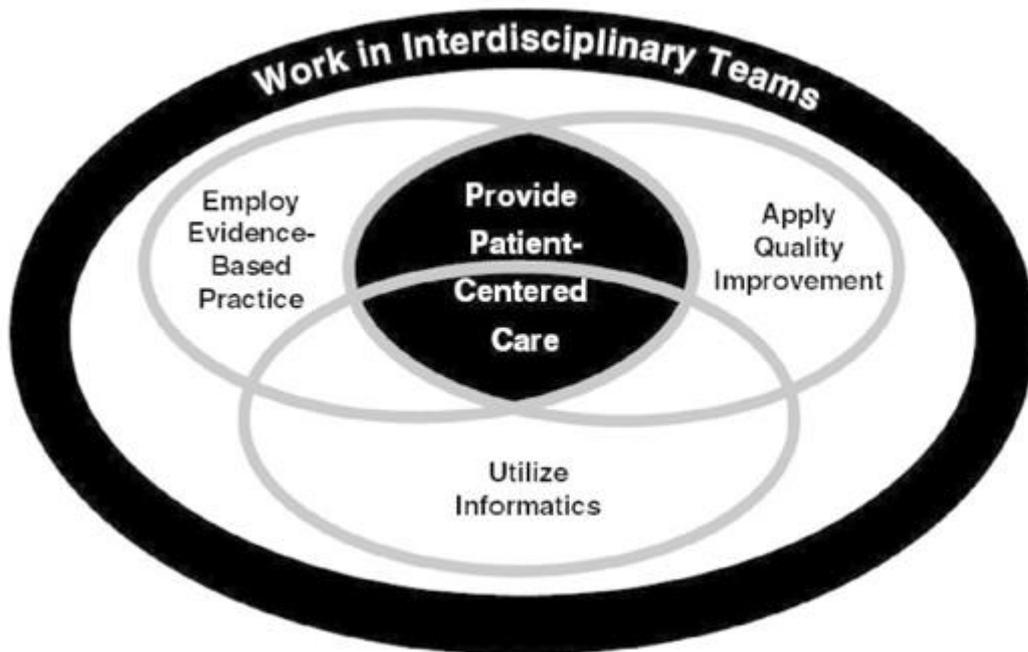
4.6 The NHS Knowledge and Skills Framework

The NHS Knowledge and Skills Framework (Department of Health, 2004) covers a broad spectrum of activities which are needed by the NHS to ensure an efficient and effective service is provided to the public. There are thirty areas within this framework which apply to the NHS of which there are 6 key sectors which apply to every NHS position irrespective of job function and title. Each of these key sectors has 4 levels which are hierarchical within the key sector but are not hierarchical across posts. The example given by the Chartered Society of Physiotherapists is a band 5 physiotherapist may be working at a lower level on a key sector like health and safety compared to an assistant who may be specifically tasked with a specific remit to carry out safety checks on some electrical equipment used in patient treatment and care.

Each level has a descriptor which explains the level and the key facts about it. Across from each level descriptor are markers/indicators which outline how the

knowledge and skills are applied.

Details of applications relating to profession specific situations are noted in the same text. Additional details can be highlighted about the application but the descriptors can't be changed. This detail is relevant to the level descriptors discussed in Chapter 7 (7.6, 7.9, 7.12) which forms a key part of the workshop and interview data findings.

Figure 4.3 NHS Knowledge and Skills Framework (Department of Health, 2004)
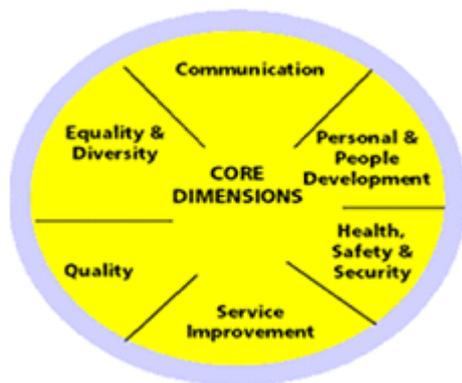
4.7 Derbyshire Interagency Group (DIAG)

A further example of an agreed standard of practice is the three specific levels of training operated by the Derbyshire Interagency Group (DIAG). The code of practice considers introduction, basic handling skills and specific handlings skills within a healthcare setting all with their own standards and directly linked to work specific tasks. The good practice model developed and operated throughout DIAG is unfortunately restricted in its use to the Derbyshire area. It shows how consensus in this area of healthcare can be achieved which combines different professional groups working for various employers and where "there is no one specific standard but a series of standards which can be used as reference tools when developing a training strategy for any organization, large or small" (HOP 6) p78.

4.8 Ergonomic Patient Handling Passport Learning Scheme

Tamminen (2010) addresses competence by focusing on the importance of training

staff in patient handling skills which sets clear objectives based on the assessment of hazards, risks and needs. The role of ergonomics in the workplace through Ergo coaches is one example of internalizing the task based training which broadens the knowledge and subject matter in applying the right moving and handling methods to patient care. The coaches ensure a standard of competence is attained and maintained. The evidence of their clinical skills is noted in the ownership of an Ergonomic Patient Handling Card. Implicit in the award of this card is the Ergonomic Patient Handling Passport learning scheme (2009). This involves E learning, practical training of evidence-based principals, application of evidence based practice at the workplace, repetition and exam which has been peer reviewed and evaluated. Henriksson (2011).

4.9 DiNO / SOAP

There are additional competence based assessment models for example DiNO (Johnsson et al., 2004). This is an assessment tool checklist which is used to observe staff involvement, interaction and behavior when undertaking transfers of patients. It considers the use of equipment, competence, skills and the use of safe systems and methods of work. There is the Structured Observation Assessment of Practice (SOAP) model which assesses the clinical competence of third year undergraduate nursing students (Levett Jones et al., 2011). NHS Lothian implemented a moving and handling competency assessment model aimed primarily at the acute sector but developed and involving the community nursing care sector.

4.10 Portfolio of Evidenced Techniques (POETs)

There is a relationship that develops between the competent professional person doing the moving and handling and the client receiving the care. For this relationship to work there needs to be "agreement between the professional and the person being assisted" (Johnson, 2015), p27. Professionals and those involved in moving and handling of people have developed and fostered through various groups, associations, a dialogue on what practices and procedures and competencies are required and their usefulness when assessing and carrying out tasks with clients

who require input when they are being moved and handled as part of their care. Through trials and input from professional groups, POET is a process "to assess manual handling techniques for assisting people to move and transfer." (Johnson, 2015), p27. This scheme hopes to build an evidence base of data and relevant details using an assortment of recognised tools by gathering information from professional groups. This detail can then be shared through publications, Journals and alongside research strategies with likeminded people. The aim is to inform professionals using a model led methodology and to offer a practical evidence based approach which can be considered when moving and handling people in an acute or community setting. There are guidelines which have been developed to assist in the techniques that will be under assessment, review and practice. There is a role based system for undertaking a POETs review which includes a facilitator, model, handlers, assessors and a scribe. The process considers choosing a technique, collecting data before any further discussion occurs to ensure consistency of the approach. This system has used photographs by consent and has been piloted prior to launch. It is being monitored by the National Back Exchange, the professional body for moving and handling with findings and discussion being shared with members.

4.11 Summary and Critique of Competency Models

This research has established that there is not one core competency framework which encapsulates all the healthcare professions working for different employers who would routinely carry out manual handling tasks. Assessing the competency of all the HCPs involved in MHRAs in community settings is beyond the scope of the research questions on MHRA, Community Setting and Clinical Reasoning. Education and training varies in scope and context depending on the employers of the HCPs. The SMHPS (2014) is an attempt to provide a nationally consistent level of moving and handling education to participants. The skill transfer in participating organisations is a key driver in the development of this scheme. However, of critical note, the SMHPS which is now open to all sectors of the healthcare professions and third sector organisations in Scotland, is advisory and not compulsory, so there is an option for employers to adopt alternative education and training programmes.

Measuring competency at a consistent level for all professionals involved in MHRA in the community is at present not possible. The NHS has a different approach to Social Work in the grading and delivery of education and training. It is unknown at present whether the Integration plans for health and social care will have an impact on the competency frameworks applied to professionals working in the community settings. In this research district nurses are sometimes involved in moving and handling of patients. However, their role in this work in the community over the last ten years has changed. Access to district nurses in the workshops and interviews was limited and therefore was not a true reflection of their competency levels in MHRA in a community setting. It is recognized that by having a competency framework, for example, the RCN (1999) in place that the district nurses can apply their training and education in this area of healthcare if and when it is required of them in their clinical duties.

Watson et al (2002), p421,comment that there is not a unitary definition of competence that is universally accepted as a 'gold standard.' The authors consider the analysis of competency, what is being assessed and how it is effectively measured and at times criticized and looks at the levels at which individuals are judged to be incompetent. Further comment in reviews highlights that there are policy issues which should be addressed. These are:

- Clarification and consistent adoption of terms are essential
- Further critical debate is needed on the overall goals of nurse education and appropriate concepts of competence
- More research is needed on developing and testing methods of assessing competence
- Caution should be exercised in relying on results from a single method of assessment
- Partnership working between education providers and NHS trusts is essential to promote an integrated approach to competency development and assessment.

The literature on competency levels has highlighted that one model does not fit all

situations. It is clear that healthcare attaches a great deal of importance to staff being competent to practice. Professional bodies have created policies and procedures to ensure that their members understand the need to practice to a competent, safe and effective standard when delivering care to vulnerable people in their homes and in acute settings. As care provision has been moved into the community the delivery of this service has been focused on the training and development of social care workers. The employers of the care workers have now been given the role of training the carers and ensuring that they are practicing at a level of competence. A competence framework for Trusted Assessors (Winchcombe, M., & Ballinger, C, 2005) initially designed for training support staff in providing equipment to people with additional needs was developed to ensure that individuals irrespective of their role or level of skill could show the required skills knowledge and understanding of the way in which they approached the provision of equipment to service users. With more Assistive Technology equipment in peoples' homes the providers of equipment to assist in daily living are strongly encouraged to train their staff appropriately and to ensure that their companies and individual members of their staff are complying with the industry's codes of practice (BHTA/HATS).

This section of the chapter has set out the recognized professional competency standards of healthcare professionals, carers and the healthcare industry. It is apparent that there is not one universal competency standard for MHRA that measures all the people involved in the moving and handling of people and who are involved in the advice and delivery of healthcare. The NHS as highlighted in this chapter has frameworks to assist in driving up the standards of care in the community and the acute sector. Social Work has shown that it is developing the knowledge and skills of its social worker staff group (Department of Education 2014).Many of these factors assume that the competence of the clinician is transferrable from acute to community settings. This is perhaps not the case. In the next section, an explanation will be offered on the relevance of investigating clinical reasoning and not competencies in MHRAs in community settings.

4.12 Why Investigate Clinical Reasoning in MHRAs in Community Settings and Not Competencies

Clinical reasoning is often defined as the way clinicians think about the problems they deal with in clinical practice (Elstein and Bordage, 1991). It has been associated with clinical outcomes (e.g. Aitken et al., 2003) and educators agree that clinical reasoning is important in clinician competence (Norman, 2005). As noted previously, definitions of competencies involve knowledge, judgement, skills, and experience to do a job well. Thus, clinical reasoning and competencies are related. From the viewpoint of competency models, clinical reasoning may be considered a competency, or from the viewpoint of models of clinical reasoning, a clinician may draw upon his / her competencies to exercise clinical reasoning.

As discussed in the previous section, there is not an agreed upon set of competencies required for conducting a MHRA in acute healthcare settings and competency models implicitly assume that competencies are transferable to community settings, which may not be the case. There are however models of clinical reasoning (as will be discussed in the following sections) which have been used across different clinical settings. Thus, this research considered the problem of conducting MHRAs in community settings from the point of view of clinical reasoning. From this perspective, future research will be able to identify and investigate which competencies (e.g. knowledge, skills) a clinician needs to draw upon in order to exercise clinical reasoning.

4.13 Clinical Reasoning

Norman (2005) argued that the literature on clinical reasoning is difficult to access and synthesize. He pointed out that studies of clinical reasoning have been published in diverse fields from medical education, sociology, cognitive psychology and clinical psychology, and that many of these studies use synonyms like clinical judgement, problem solving, decision-making, and critical thinking with little

consensus amongst researchers about the basic characteristics of clinical reasoning.

Elstein and Bordage (1991) argued that clinical reasoning involves clinical judgement and clinical decision-making. Elstein and Bordage (1991) considered clinical judgement to be deciding what is wrong with a patient. With respect to the 'Five Step' model of risk assessment it is argued that this is similar to risk perception in that hazards (in this case symptoms or features from other medical information) are identified with respect to their potential to cause harm. They considered clinical decision-making to be deciding what to do. Again, with respect to the 'Five Step' model of risk assessment, this is similar to risk decision-making in that a decision is made about the precautions to be taken. Critical Thinking includes "'questioning, analysis, synthesis, interpretation, inference, inductive and deductive reasoning, intuition, application and creativity." (American Association of Colleges of Nursing, 1998, s 2; Benner et al., 2008) argue that critical thinking integrates knowledge, experience and clinical reasoning to support the clinical practice of the professional. Within the practice of critical thinking is clinical reasoning and clinical judgement. This can be reasoning as it is applied inside and outside of clinical practice.

Clinical Reasoning. (Higgs 2006b), p4, "*or practice decision making is a context-dependent way of thinking about decision making in professional practice to guide practice actions. It involves the construction of narratives to make sense of the multiple factors and interests pertaining to the current reasoning task. It occurs within a set of problem spaces informed by the practitioner's unique frames of reference, workplace context and practice models, as well as by the client's contexts. It utilizes core dimensions of practice knowledge, reasoning and metacognition and draws on these capacities in others. Decision making within clinical reasoning occurs at micro, macro and meta levels and may be individually or collaboratively conducted. It involves metaskills of critical conversations, knowledge generation, practice model authenticity and reflexivity.*"

Clinical judgement and decision making, the process of coming to a decision, is more focused on the facts and in providing solutions. Whether reasoning or judgement in a clinical setting in this research, it is the process of communicating and informing others of the outcomes that are important when it comes to monitoring and reviewing the MHRA of the client under consideration.

Figure 4.4: Critical Thinking, Clinical Reasoning and Clinical Judgement (LeFevre, 2016).

PROCESS	RESULT (OUTCOME)
Critical thinking and clinical reasoning	**Clinical judgment** (conclusion, decision, or opinion)
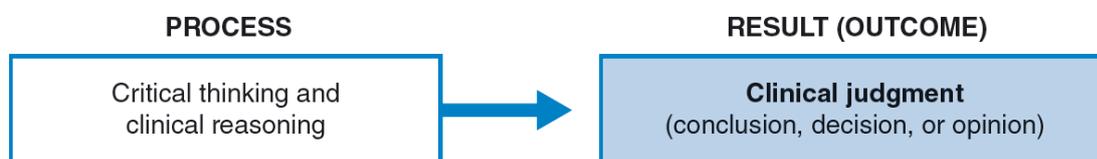
It is suggested that critical thinking, clinical reasoning and clinical judgement can all be considered as part of the process adopted by HCPs in providing quality and informed care to clients in the community setting. Benner et al (2008), Ch 6 these three clinical skills "are dependent upon their ability to reason, think and judge, which can be limited by a lack of experience." Benner (2008) maintains that knowledge and experience are directly linked to the competency of the clinician from the Novice through to the Expert, Benner (1987). The literature used to inform this discussion is predominantly focussed on the nursing profession. However, it is assumed that the principles applied are transferrable to other professions allied to medicine, for example, Occupational Therapy and Physiotherapy.

While research about clinical reasoning may have begun in medicine, there are many examples of research about clinical reasoning in other healthcare professionals. For example, research about clinical reasoning has been conducted with nurses, physiotherapists, occupational therapists, and dentists. Higgs et al, (2008). Munroe (1996) found in a study of Scottish occupational therapists working in home environments that they did not appear to use clinical reasoning procedurally to make decisions but could do so when their decisions were challenged. This is consistent with Mattingly's (1991) p 979-986 definition of

clinical reasoning as involving "more than the ability to offer explicit reasons that justify clinical decisions because it is also based on tacit understanding and habitual knowledge gained through experience." This suggests that other types of reasoning, like non-analytical reasoning, and factors like experience may be involved in clinical reasoning. While there are many ways to consider the literature on clinical reasoning, three prevalent research traditions seem to exist in the literature (hypothesis testing, the development of expertise and non-analytic reasoning). The research will consider each of these in turn.

4.14 Clinical Reasoning as Hypothesis-Testing

Research on clinical reasoning began in the tradition of hypothesis testing (Elstein & Schwartz, 2002). Elstein et al.,(1978) were among the first researchers to develop this approach to clinical reasoning. They argued that the clinician should look for initial cues from the patient, develop hypotheses, and then test those hypotheses by gathering additional data to support or reject those hypotheses. Research in this tradition of clinical reasoning has been extensive (Norman, 2005). More recent models of clinical reasoning in the hypothesis testing tradition explicitly recognise that clinical reasoning is more than just reaching a diagnosis and is a cyclical rather than linear process. Levett-Jones et al., (2010), p515 defined clinical reasoning as the process by which clinicians "collect cues, process the information, come to an understanding of a patient problem or situation, plan and implement interventions, evaluate outcomes, and reflect on and learn from the process." Their cyclical model is shown in Figure 4.5.

Figure 4.5:   Clinical Reasoning Cycle (from Levett-Jones et al., 2010)
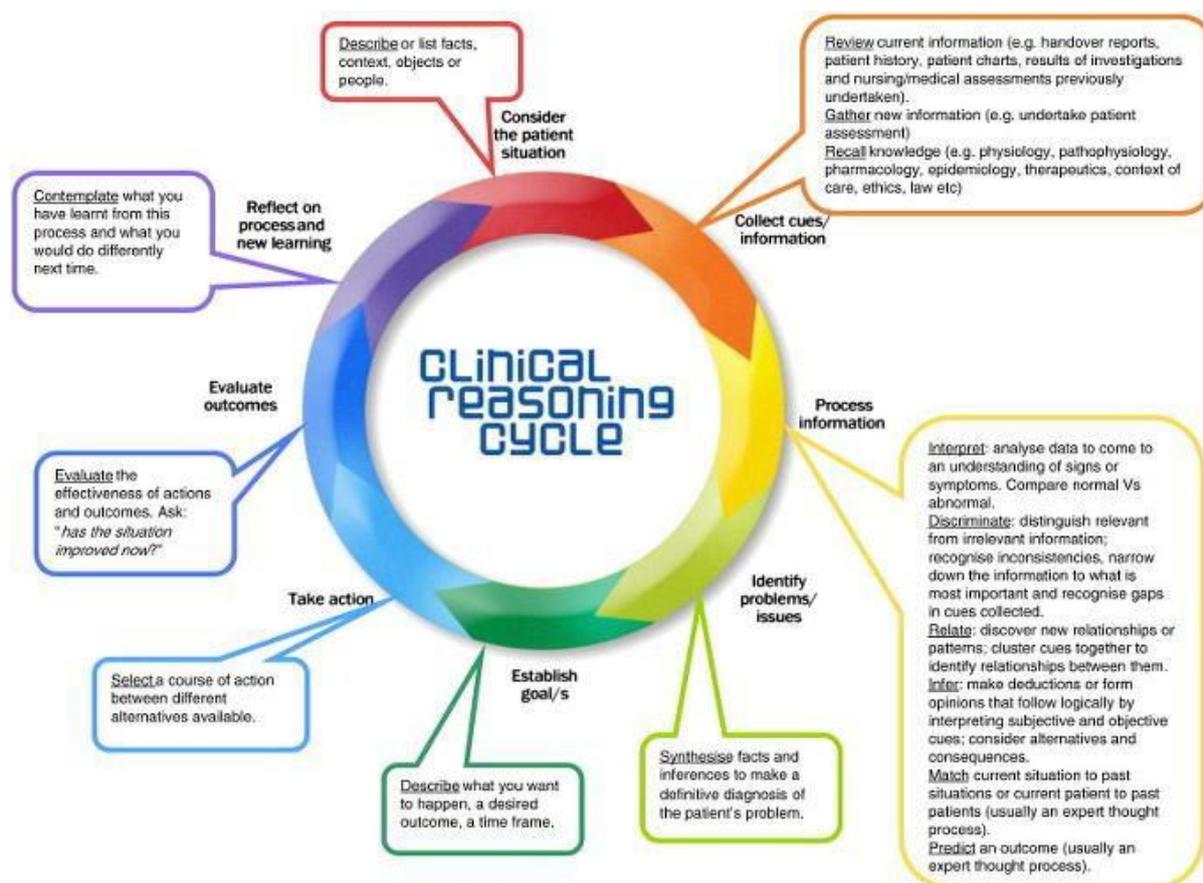
Levett-Jones et al. (2010) posed 'Five Rights' of clinical reasoning (right cues, right action, right patient, right time, right reason) which are comparable to the 'Five Step' model of risk assessment. It is noted that when the HCPs are identifying moving and handling hazards and evaluating the risks associated with these hazards they are collecting cues and information from the clients, carers and family members about the issues that are concerning them. The risk perception process considers the gathering of relevant clinical and non-clinical information. The identification of problems and the risk decisions made are based on the establishment of client goals. The action needed around these goals ensures the right decision should be taken for the patient. The communication of these risks through outcomes and reflective practice are part of the five steps approach to risk assessment as

well as completing the circle in the clinical reasoning process. As part of reviewing and updating of a MHRA, it is suggested that the HCP should then go back to the hazard identification stage of the assessment and ensure that the processes and procedures for moving and handling the client are still relevant and achievable. This takes the assessor back to the collection of cues and information stage of the clinical reasoning process. It is suggested that the research model is informed by the processes identified in the five steps to risk assessment and the clinical reasoning cycle.

As mentioned, Mattingly (1991) argued that clinical reasoning (from an occupational therapy perspective) should go beyond hypothesis-testing and include a phenomenological approach (taking a person-centred approach to understand how disability is socially constructed). Mattingly implicitly suggested that the development of clinical reasoning involves going beyond rule-based thinking. The next section considers the stages in the development of clinical reasoning.

4.15 Stages in the Development of Clinical Reasoning

Benner (2005) proposed a model of the stages of development in clinical reasoning (Novice to Expert) in nurses. She proposed five stages in the development of clinical reasoning:

1) Novice (First Year of Education)

2) Advanced Beginner (New Graduate)

3) Competent (1 to 2 Years in Practice)

4) Proficiency (A Transition Stage on the way to Expertise)

5) Expertise (Practical Wisdom)

Benner (2005) argued that the development of clinical reasoning involved moving from rule-governed thinking (Novice) to an intuitive grasp of the situation (Expertise). She described the Novice as not having any experiential background to base approach or understanding of clinical situations. The Novice's rule-governed

behaviour is limited and inflexible. The Advanced Beginner may experience each situation as a myriad of competing tasks and may experience worry and anxiety over not knowing how to prioritize them. As a result of one to two years of clinical practice, a clinician at the Competent stage of development is able to prioritize information based on past experiences. In the Proficiency stage, the clinician continues to build experience but is able to appreciate different perspectives of the clinical situation. It is not until the Expertise stage that intuitive links between seeing and responding to the situation develop. Intuitive processing is considered in the next section on Non-Analytic Reasoning.

4.16 Clinical Reasoning as Non-Analytical Reasoning

(Kahneman, 2003; Eva et al., 2007) explain and contrast the psychological dual process theories of analytical and non-analytical reasoning and determine that there are two methods, knowing and thinking. (Boreman 1994; Ferreira et al., 2006; Epstein,1994; Evans, 2009) consider that the analytical approach to clinical reasoning is focused on diagnostic hypotheses. It is developed in a controlled, explicit and rational environment where there is medical analysis, knowledge, evidence and decision making based on cause and effect clinical reasoning. The medical decision making model looks to clinical evidence as the base line for making diagnostic decisions and "integrating individual clinical expertise with the best available external clinical evidence from systematic research" Sackett (1996), p71-72.

(Schmidt et al.,1990; Bordage; 1994, 2007), refer to the prototypes and scripts relating to a patient's condition, disease or characteristics. These can be at both an analytical and non-analytical level depending on clinical information mapped to a particular disease. The age, gender and medical history are important features regarding a patient's persona and are an integral part of the analytical diagnostic hypotheses. (Norman et al., 2006; Schmidt ,1990 cited in Stolper et al., (2009), p10), comment "on causal reasoning with biomedical knowledge." This is a further analytical process that is related to medical problem solving where student doctors/ novices understand through study the underlying medical issues of patients but who

have not built up the necessary clinical knowledge and experience to quickly identify a clinical problem presented by a patient. When experienced clinicians are presented with a complex case then they too can adopt this approach. Norman et al (1994). The use of biomedical knowledge, symptoms, cause and effect of disease, provide physicians with 'diagnostic labels' which assist in the diagnosis of the person. When dealing with routine cases the medical staff tend to activate their clinical reasoning which map through association and experience with similar cases and allows the clinician the opportunity to deal effectively with a prognosis. However, Van de Wiel et al (1999) highlights that biomedical intervention may be required to deal with more complex cases and also to verify non-analytical results.

Non-analytical reasoning can be responsive, automatic, implied, indirect, contained within a thought process which is intuitive, associative and responsive to a degree of chance, pattern recognition and is "high accessibility of the immediate thoughts." Kahneman (2003), p267. In the non-analytical reasoning situation in a clinical setting perhaps the situation that the professional intuitively opts for is the first one that comes to mind, the concept of 'satisficing,' rather than looking at the optimum outcome that would perhaps present from an appropriate analytical 'rational model.' Jones (1995), p17-24, argues that the intuitive/instinctive approach works on easy and medium challenges but when a demanding issue presents then this method can't deal with the "deep, methodical approach required to solve difficult complex system social problems." What is required is a more structured approach to problem solving. Stopler et al., (2009) offer a more reasoned approach to analytical and non-analytical reasoning as applied in a healthcare setting. Their argument can be used to discuss the benefits of non-analytical reasoning as a detailed diagnosis in relation to this thesis when considering MHRA issues. The detail and process in the research model can potentially identify and offer the development of an approach which considers an optimal solution to the way in which HCPs may deal with hazards and risks in community healthcare settings. Stolper et al., (2009), p10, developed their research in a clinical setting but recognized that the ("niet–pluis") implicit knowledge around a situation where "there may be something wrong with a particular patient, without having a clear diagnosis" is a grounded theory phenomenon worthy of further investigation. This discussion compares to the

medically illustrated and referenced ("pluis") definition which considers the situation where "a GP feels secure about the way to deal with a patient's complaint, even without having a clear diagnosis." Elstein and Schwatz (2002) discuss selective review in which they consider diagnostic reasoning as medical problem solving and medical decision making using analytical and non-analytical processes.

Stopler et al (2009) p10, argue that "with experience…clinical reasoning becomes more automatic and non-analytical allowing fast and efficient diagnosis and treatment while rich knowledge base can be accessed, if necessary, in a more deliberate and analytical way." Intuition in medical decision making can be considered within the cognitive continuum theory (Hammond 1981), p4, p16. This theory considers six forms of decision making along a continuum where the cognitive continuum covers from intuition to analysis and the judgement continuum ranges from ill structured to well structured. The more structured a task is, the more analytically induced will be the decision-making. (Hammond et al.,1997; Hamm 1988b; Dunwoody et al., 2000).

Task specific work accurately matched with cognitive processes by the medical staff for Dreyfuss and Dreyfuss (1980) Benner et al (1987) highlights that expertise and knowledge grows with experience. Tacit knowledge, Mattingly (1994) Polyani (1967) p108 is "that which we know but cannot tell." and comes out of informal and implicit education. There is an element of everyday action and reflection associated with such knowledge. Intuition in decision making is widely taught and discussed as part of the education process of nurses and professionals allied to medicine (OT and PT). (Banning, 2008; RCN, 1997; COT, 1997; CSP,1997).

The reality of clinical reasoning in community settings in relation to clients presenting with complex conditions is that HCPs will undoubtedly use simultaneously a range of analytical and non- analytical reasoning. Kulatanga-Moruzi et al., (2001). Epstein (1994) highlights the role of affect as a positive or negative, a state of good or bad feeling which has become associated by experience to knowledge identified through images and metaphors. Norman (2007), p1140-1145, argues that NAR is a key element of diagnostic expertise at each stage in the education process of clinical

staff. Furthermore, Norman (2007), p1140-1145 comments that "early hypotheses based on NAR can result in the reinterpretation of critical clinical findings." The main challenge to the hypothetico-deductive model clinical reasoning comes from studies which have demonstrated that successful and unsuccessful diagnosticians use hypothesis testing (Elstein & Schwarz, 2002) and that novice and expert diagnosticians could generate a similar number of hypotheses (Neufeld et al., 1981). In investigating where these hypotheses come from, Norman et al. (2007) drew on psychological research from everyday categorisation to develop a model of Non-Analytic Reasoning (NAR). They argued that NAR in clinical reasoning has to do with the role of experience and the application of an exemplar model of categorisation (e.g. when you see a breed of dog you've never seen before, you just know it's a dog).Norman et al., (2007) reviewed some of the consequences of NAR in clinical reasoning. They pointed out that: 1) accurate diagnosis may be associated with less, not more, time, 2) experts cannot predict errors of other experts, and 3) ambiguous features are easily misinterpreted. Norman's model of NAR is similar to Naturalistic Decision Making (Klein, 2008) which has been used to understand how people make decisions in complex real-world settings like fire-fighting. Klein (2008) argued that a decision-maker matches his / her situation based on cues, goals and actions stored in memory. If there is a noticeable match, then that match influences the action taken or the search for more information. Thus, the Recognition-Primed Decision model, as it more commonly called, involves both intuition and analysis. Community Healthcare Professionals may use Non-Analytic Reasoning or Recognition- Primed Decision-making when conducting MHRAs. If this were so, a community healthcare professional, depending on experience, would see a client in his / her home environment and just know what the likely hazards and associated risks for that client case are.

4.17 Comparing Research Traditions in Clinical Reasoning

Norman (2005) argued that the literature on clinical reasoning is difficult to access and synthesize. This research has reviewed models / literature on clinical reasoning from three research traditions: 1) Clinical Reasoning as Hypothesis-Testing, 2) Stages of Development in Clinical Reasoning, and 3) Clinical Reasoning as Non-

Analytical Reasoning. Table 4.1 compares these approaches to clinical reasoning with respect to the processes of risk perception, risk decision-making, and risk communication, so as to explicate the development of the proposed research model.

Table 4.1: Summary of Research Traditions in Clinical Reasoning with respect to the Proposed Model

Research Tradition / Factor	CR as Hypothesis Testing (Levett-Jones et al.'s cycle; Higgs)	Developing Expertise in CR (Benner; Higgs; Levett-Jones et al.)	CR as Non-Analytical Reasoning (Norman; Benner; Hammond)
Risk Perception	Hazard identification/risk evaluation perceived by the HCP as qualitative /quantitative. Novice to Expert look for what they think are initial cues from the patient. Develop hypotheses, test them, gather more data, retest. From the data identify problems, issues, hazards and their risks to support/reject hypotheses. Novice to Expert can take a phenomenological approach to risk perception and consider/understand how disability as applied to MH is socially constructed.	From Novice to Expert limited identification and evaluation of hazards and risks through to the understanding and appreciating of different perspectives of the identified clinical MH situations. Expert stage considers the intuitive links regarding the likelihood of hazard and risks in a given situation, responding to the MH situations based on perceptions, experience, education and training.	The Novice to Expert are always learning from their own practice and potentially involving the assistance given by their colleagues and other advisors. They can adopt a rational model based on an analytical process related to medical problems and also have a non-analytical approach which can be intuitively applied and may be in their MHRA approach the first perceived view that comes to mind (satisficing). HCPs can have structured and non-structured perceptions of risk.
Risk Decision-Making	CR is more than reaching a decision on a diagnosis. Levett- Jones sees it as a cyclical process rather than a linear approach to decision making. There is the process of understanding a patient problem, looking for a solution or a plan, deciding on the best	Moving from rule-governed thinking to intuitive thinking (Benner). Trying to predict what the patient might be thinking and apply this knowledge to the clinical and non- clinical outcomes. The more experienced professional will consider the	Analytical decisions based on biomedical knowledge,symptoms, cause/effect/disease based on cased based reasoning, pattern recognition relating to MHRA and Non Analytical decisions which look to experience where Clinical Reasoning

	person centred options to deal with the problems, evaluating the outcomes, reflecting on the outcomes and from this learning about the best course of action to take and then considering laterally on a decision based outcome for the client. There is a pathway that in which the multidisciplinary team of HCPs may consider the establishment of goals / select/take action, evaluate the effectiveness of actions, contemplate the outcomes, monitor and review and then discuss with the client, family, other professionals.	treatment pathways and options for a patient and help them manage the decisions that are taken by the person or for the person by others acting in their best interests. Decisions are potentially considered/decided on a context dependant way based on the knowledge, education and training levels of HCPs. This type of process is passed on from more experienced professionals to their less experienced colleagues. Through support and supervision it is possible to guide practice actions, establish goals which can be monitored and reviewed and which can be passed on as action points to the client through an agreed communication process.	becomes more automatic (e.g. Cognitive Continuum Theory, Hammond 1981). Shared decision making between the practitioner and the patient. Seek out the non-clinical issues as well as the clinical details and relate this to the outcomes that are being discussed with other people (carers, family, professionals) (Higgs 2008)
Risk Communication	(Higgs) Evaluate outcomes and reflect on process, new learning and the communication of the hazards and their risks relating to client goals based on the relevant clinical and non-clinical MHRA details and the communication of these facts through outcomes and reflective	The HCPs can according to their experience and level of knowledge, skills, education and training can pass on through the MHRA document as a communication aid the relevant client specific detail. If the communication is noted in a formal process then this can be added to as monitoring and review of the clients MH needs is	It is possible that through client communication channels (MHRA, meetings and discussions) that both analytical and non-analytical reasoning will be used to explain MHRA decisions. Depending on the experience of the HCPs, Novice to Expert, the range of communication will focus on what the novice notes down in the

practice which are part of the five stages of risk assessment (HSE)	undertaken. This process is cyclical and therefore additional detail can be communicated at any stage of the assessment continuum. The level of communicated detail will invariably be related to the HCPs experience.	assessment through to the intuitive "just know" approach of the expert in relaying / communicating decisions, actions, goals outcomes relating to the identified hazards and their associated risks.

4.18 Chapter Summary

This chapter has looked at the traditions in clinical reasoning, the way in which critical thinking is applied to problem solving a situation perhaps in a person's home and the reasoning that is applied by the clinician to guide practice actions. It is suggested that coming to a decision around a moving and handling issue involves clinical judgement by the practitioner that then needs to be effectively communicated to others to allow for the monitoring and review of the situation in due course. Approaches to the Clinical Reasoning cycle have been considered in this section through Hypothesis Testing, Clinical Reasoning as Development of Experience and Non-analytical Reasoning. A table relating to the three theories has shown the tripartite relationship between each section. The experience and the competence of the professionals applying their clinical reasoning, using a MHRA, to a case with complex needs, has further developed the research process. The use of competence frameworks to explain the role of the novice, competent and expert practitioner has drawn on the importance of the professional person's knowledge, skill and experience in the work that is being undertaken. The role of the professional bodies has been highlighted and the importance of their competency frameworks has been used to inform the research.

The participants in the workshops and interviews considered their competency levels when carrying out their MHRA using the two case studies. It was noted that there is not one competency framework which covers all the healthcare professions. Assessing the participating healthcare professionals was beyond the scope of the research. Instead, the role of clinical reasoning by the healthcare professionals in examining the contents of the case studies was viewed as a more appropriate and relevant method to answer the research questions which are considering the use of Clinical Reasoning in the MHRA process in a client's home setting.

Chapter 5: Conceptual Model of Clinical Reasoning in MHRA in Community Settings

5.1 Introduction to the Proposed Model

It is suggested that the previous literature chapters have established the constituent elements in the examination and development of a model to address the research questions which consider MHRA, Community Setting and Clinical Reasoning. Each chapter has added a key ingredient into the proposed model discussion. This started with the HSE's Five Steps to Risk Assessment, followed by the importance of the specific elements of legislation in a MHRA, furthered by discussion on the role of community through to a review of clinical reason and competency.

The research has used the tenets of the Psychometric Paradigm (Slovic, 1987;1992) to explain how different healthcare professionals may perceive hazards differently, leading the discussion to consider and assume that MHRA is a subjective procedure. It is suggested that Community healthcare professionals may be at different stages of development in their clinical reasoning with respect to Risk Perception, Risk Decision-Making, and Risk Communication in MHRAs. Levett-Jones et al.'s (2010) Clinical Reasoning Cycle, as noted in Figure 4.5, is similar to the 'Five Steps'. As the HCPs gain experience, it is argued that this should influence their development through Benner's stages of clinical reasoning. It is assumed that as one moves from Novice to Expert, Non-Analytic Reasoning / Recognition-Primed Decision Making will develop as a function of experience. Thus, it is proposed that these two models can be combined through the processes of Risk Perception, Risk Decision-Making, and Risk Communication to investigate the role of clinical reasoning in MHRAs in community settings. The model suggests that clinical reasoning in MHRA is not a linear process but a cyclical one whereby Risk Perception influences Risk Decision-Making and then Risk Communication, and then through feedback/reflection/review influences Risk Perception before the cycle starts again.

This chapter now proposes a model about the relevance of clinical reasoning in MHRAs in a community setting by synthesizing the supporting literature reviewed in the previous chapters.

5.2. HSEs Five Steps to Risk Assessment

The distribution of the five steps approach to risk assessment has had wide coverage and usage in the health services, social work and educational services in the UK. (Research Report 476, 2006). The participants in this research were familiar with the HSE Five Steps to Risk Assessment. The HSE's model can be considered in a wider context, where, for example, The Government of Canada through the Canadian Centre for Occupational Health and Safety (CCOHS) recognizes that there is a five steps process to risk assessment. The same risk assessment procedures are broadly adopted by the USA government and in Europe the countries making up the European Union use similar principles when assessing risk. The international acceptance of the five steps to risk assessment has been used to support this thesis and assist in the developing of the research model. The HSE (2011) 'Five Steps to Risk Assessment' are:

1. Identify the hazards
2. Decide who might be harmed and how
3. Evaluate the risks and decide on precautions
4. Record your findings and implement them
5. Review your assessment and update if necessary

It is argued that given the widespread acceptance amongst professionals of the Five Steps model of risk assessment it is appropriate to adopt this standard for use in this thesis. A risk assessment of a client with complex needs is an active working document which is constantly changing. A person's clinical condition can change very quickly in both a positive (improvement) and negative (deterioration) way.

There is the need to identify hazards, evaluate the risks, monitor and review before starting the process again due to a potential change in a client's condition. The assessment is perceived to follow a cyclical pattern as the clinical issues that present by the client and which are often reported by the carers deal with dynamic as well as short, medium and long term change. At each change there is a potential review of the five steps and then alterations are made by the professionals to the

MHRA. Many clients present with comorbidities which suggest a constantly changing set of inter related, potentially co-existing and interlinked medical challenges. Moving and handling could be involved in many of these different situations. For example, this could be when a carer is hoisting a person from a bed to chair or sliding that person up a bed. Transferring from a chair to chair using a sliding board is a further way in which a person can be moved.

The clinical reasoning of the HCP is a key part in understanding how the medical condition/s of a person influences their daily activities. Effective moving and handling using the structure of a MHRA is a way in which the person can be moved around their home environment or be helped into equipment like a wheelchair which allows them to then benefit from external activities. It is suggested that the competent HCP carrying out the risk assessments, use their individual views, their perception of risk, around the hazards which they have identified relating to their clients. This observation is noted and the details inform the content of the MHRA. The Psychometric Paradigm is used in this thesis to theoretically explain the individual's perception of risk and in doing so inform and enhance the subjective nature of the manual handling risk assessment process.

As shown in Figure 5.1 this thesis suggests that these 'Five Steps' are cyclical in nature, as Step 5 (reviewing and updating the assessment) implies going back to Step 1. It is further alluded to that these steps can be understood through processes of Risk Perception, Risk Decision-Making, and Risk Communication. This research will consider each of these processes in turn with respect to MRHA in community settings.

Figure 5.1: The HSE's Five Steps to Risk Assessment: Cycle of Risk Perception, Risk Decision-Making and Risk Communication

Risk Communication

Risk Perception

5. Review your assessment and update

1. Hazard Identification

4. Record your findings and implement them

2. Decide who might be harmed

3. Evaluate the risks and decide on precautions

Risk Decision-Making

70
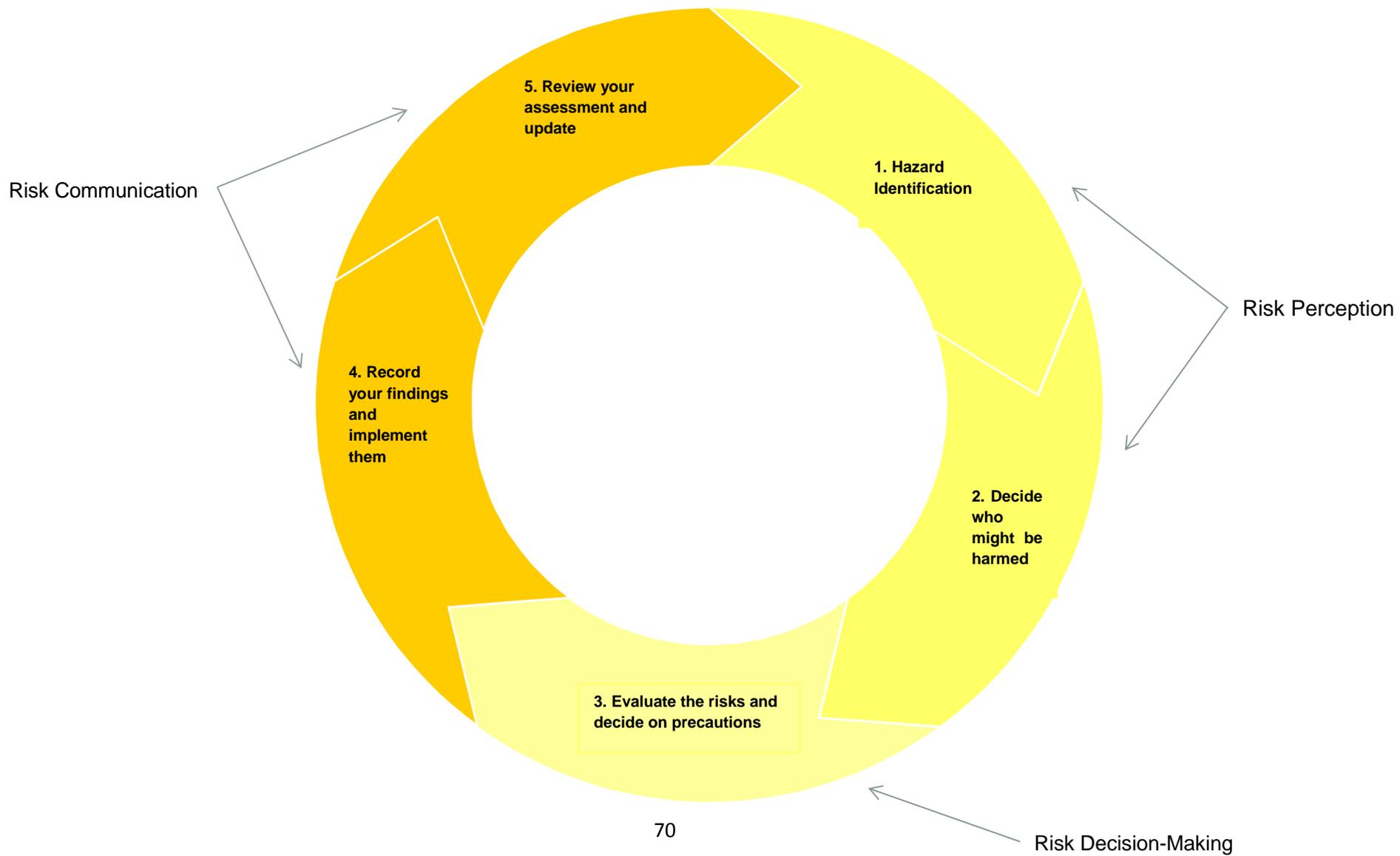
5.3 Risk Perception

As mentioned earlier, a widely accepted definition of risk perception is "people's beliefs, attitudes, judgements and feelings towards hazards and their benefits" (Royal Society, 1992) p89. From the Five Steps model, it is suggested that the first two steps 'Hazard Identification' and 'Decide who might be harmed' could be classified as part of risk perception. Hignett (2001a) argued that UK MHRA models are structured under headings of TILE (Task, Individual, Load, and Environment). These headings are consistent with the MHOR (1992) guidance. Although the TILE approach offers a risk assessor a structured way of identifying hazards, it may lead the risk assessor to neglect any associated complexities.

Similar moving and handling tasks are routinely carried out in both acute and community settings (NBPA/RCN, 1997; BackCare / RCN, 2005; HOP6 NBE / Backcare 2011). Examples of such tasks are transfers from chair to chair, chair to bed, and transfers for personal care. Other tasks in a community setting could involve transfers into specialised seating, standing frames, and / or on and off the floor for stretching and relaxation. The care delivered to clients in community settings can also involve the moving and handling of ventilation equipment or home oxygen kits at the same time as moving the client. Other pieces of medical equipment (e.g. specialised catheters, PEG feeding) may also need to be considered as part of perceived hazards identified in MHRA in community settings.

According to the TILE (O) model, the Individual is the care-giver looking after the client. This care-giver must be trained appropriately to conduct manual handling tasks, and as per the HASAWA (1974), this is the responsibility of the care-giver's employer. A carer who lacks appropriate training and / or competency is a perceived hazard that can be identified as part of the MHRA process, but that is beyond the scope of the research questions that are being investigated. The TILE (O) model considers the Load to be the Body Mass Index (BMI) of the patient / client in acute / community settings. The BMI of the client is an important clinical factor but is required to ensure that a person who needs hoisted is within the safe working load of the equipment. The weight of the person who is non weight bearing is a hazard with the risk of injury to the carer if the carer attempts to move this person without some

form of mechanical aid. There are different weight bearing and environmental challenges within most hospital wards and departments when dealing with plus-sized people (Murray 2011). These tend to be space, access in and out of equipment (e.g. MRI scanners) and the moving of plus-sized people between wards and departments. In community settings, these perceived hazards might be around the space available in the client's home for hoisting, storing equipment, point loading of equipment on different styles of flooring as well as the weight bearing capacity of the joists. This structural process along with risk assessment guidelines although identified in (HOP 6, 2011; HSE 2015) are not routinely planned into the discharge of a patient from an acute setting.

Few studies in the manual handling literature have focussed on the patient's physical, emotional and mental needs. For MHRA in community settings, a client-centred approach may help to identify perceived hazards posed by the client and who might be harmed when conducting moving and handling tasks. For example, clients may not be informed about their moving plan and why it is necessary to carry out certain moves. It may be that the client does not understand what their carers may require of them during manual handling tasks. Some patients / clients may behave aggressively or verbally abuse staff, and the risks of such hazards should be considered (RCN, 2008).

Lastly, for MHRAs in community settings, the Environment is the client's home. Although moving and handling equipment in acute and community settings are very similar, clients have a choice to equip their homes with fixtures and fittings, or not, according to their style preferences. The layout of a room could present potential hazards which could harm a carer. For example, lack of working space may cause the carer to compromise when moving and handling the client correctly. It is possible that the carer may injure himself when moving furniture which is in the path of the move that needs to be made by the client with the carer's help. Changes to equipment may also have to be made according to a client's changing medical condition. For example, the person may no longer be able to make a sit to stand transfer and needs to use a standing hoist. This takes up space and requires an adequate turning circle. If these tasks are all being carried out in limited space then these hazards can be high risk to the carers and potentially the client. These factors

may involve a 'change of use' to a client's home with resultant financial implications and costs for the home owner/client.

5.4   Risk Decision-Making

According to the HSE's (2011) 'Five Steps to Risk Assessment', once hazards and individuals who might be harmed have been identified, the associated risks need to be evaluated so that a decision can be made to accept the risks or to take preventative action to eliminate, substitute or control them. Breakwell (2007) suggested that risks should be evaluated as low, medium or high with respect to their probability and effects in a given time period. Quantitative as well as qualitative factors should also be considered when evaluating risks. This is consistent with the risk matrix from the NHS Scotland Manual Handling Passport Information Scheme (2011) which helps the risk assessor decide which manual handling activities should be avoided, thus complying with the MHOR (1992) guidance. From the Five Steps Model of Risk Assessment it is suggested that to evaluate the risks and decide on the necessary precautions to be taken could be classified as shown in Figure (5.2) as Risk Decision Making.

Figure 5.2: Risk Matrix from NHS Scotland Manual Handling Passport Information Scheme (2011)

Likelihood		Impact / Consequence				
		Negligible	Minor	Moderate	Major	Extreme
		1	2	3	4	5
Almost Certain	5	Medium	High	High	V High	V High
Likely	4	Medium	Medium	High	High	V High
Possible	3	Low	Medium	Medium	High	High
Unlikely	2	Low	Medium	Medium	Medium	High
Rarely	1	Low	Low	Low	Medium	Medium

Various tools have been developed to assist in the evaluation of manual handling risks in acute settings. For example, Hignett and McAtamney (2000) validated the Rapid Entire Body Assessment (REBA) which provides relevant data on body posture, type of movement, and repetition. From the data a final REBA score is obtained which highlights the level of musculoskeletal risk to a healthcare professional. The scoring details allow a measured approach to be taken from little or no risk to urgent action required, along with relevant details to allow for appropriate control measures to be introduced. The Borg Scale (1998) is a further measure of task related activity. When moving the person the assessor requires to assess the functional independence of the person. Granger et al. (1993) devised a model to classify a person's function (FIM) from complete independence to total assistance. This is a scale where a client's function is measured from 1 (where the patient presents as being completely dependent making less than 25% of effort) to 7 (where the patient has complete independence and where there is no carer or other person's involvement). The tasks are assessed as being carried out safely, without

any modified assistance or outside assistance, with the activity completed in a reasonable timescale. Although these risk assessment tools were developed in acute settings, they have the potential to be used in community settings.

5.5 Risk Communication

The final steps in the HSE's (2011) 'Five Steps to Risk Assessment' have to do with risk communication. Accordingly, findings from MHRAs should be recorded before being implemented. It is appropriate to consider these steps as part of a risk communication process because in community settings, the healthcare professional who conducts a MHRA for a client (usually employed by a Social Work Department / NHS) is likely not the client's main carer, who will be conducting the manual handling tasks with the client (usually employed by a Social Work Department or other social care agency). The Scottish Manual Handling Passport Scheme (2014) requires the development of a 'Handling Plan' informed by a MHRA. Thus, documentation is the means by which the findings of MHRAs are communicated from health care professionals to carers. As per the 'Five Steps', the findings from MHRAs should also be reviewed and updated. Although NHS and Social Work organisations are attempting to integrate their services and communication strategies, communicating the findings of MHRAs from community settings in useable formats remains a current challenge. It is suggested from the Five Steps Model of Risk Assessment that the recording of findings and implementing them as well as the review the assessment and update it could be classified as risk communication. (Figure 5.1).

As shown in Figure 5.1 this thesis suggests that these 'Five Steps' are a cyclical process. Furthermore it can be argued that these steps can be understood through processes of Risk Perception, Risk Decision-Making, and Risk Communication. The research is considering the concept of risk applied in MHRA procedures based on the clinical reasoning of a HCP working in community settings. It is therefore considered appropriate to the research narrative and the development of the proposed model that the discussion considers the concept of risk in some more detail so as to contextually advance the theoretical arguments in the thesis.

5.6 Risk as a Multidisciplinary Concept

Today, researchers recognize risk as a multi-disciplinary concept (Renn, 2008; Taylor-Gooby & Zinn 2006). As per Figure 5.3, Taylor-Gooby and Zinn (2006) classify sociological approaches as tending towards the extremes of the social collective / constructionist quadrant, and psychological approaches as spanning the individual subjective and social collective quadrants as well as realist and constructionist quadrants.

Figure 5.3: Psychological and Sociological Approaches to Risk (Taylor-Gooby & Zinn, 2006)

Taylor-Gooby and Zinn (2006) focus on two dimensions (ontology and particularity) to highlight key features in approaches to risk. Ontologically, psychological and sociological approaches differ in their explanations of how risk can be understood as 'real'. For example, "Do these risks have a self-determining focus?", "Do they involve an external aspect determined by the people as individuals?", and "Who, as social groups, recognise and react to them?" are some key questions that

differentiate these two approaches. In relation to particularity, Renn (2008) argued that the critical difference is between the individual's perception, analysis and understanding of risk, and the collectivist view, of people as social entities which considers risk as being influenced by the cultural beliefs offered by a group.

5.7 Sociological Approaches to Risk

Taylor-Gooby and Zinn (2006) place sociological approaches to risk in the social collective / constructionist quadrant. Such approaches argue that the way large groups of people perceive and respond to risk is socially constructed through institutions (e.g. Beck's Risk Society) and culture (e.g. Douglas' cultural prototypes). As key exponents of modernity, Beck (1992) and Giddens (1990), consider the way in which modern society and those who make up this society respond to the concept of risk. The discussion in the 1980s and 90s around modernity, looked to the wider society and to the growth of hazards and risks associated with environmental issues, for example, pollution and the discovery of new illnesses. Giddens (1999) p3 maintains that "a risk society is a society increasingly preoccupied with the future and also with safety which generates the notion of risk. Beck (1992), p392, considers risk society as "a systematic way of dealing with hazards and insecurities induced and introduced by modernization itself." These approaches though neglect individual differences in perception and decision-making and as such are not appropriate for investigating the research questions about how individual health care professionals consider MHRA in community settings using their clinical reasoning.

5.8 The Psychometric Paradigm

The psychometric paradigm (Slovic, 1987; 1992) spans the Individual / Realist and Social / Constructionist quadrants in Figure 5.1. Its basic premise is that risk is determined by an individual's perceptions (regardless of whether those perceptions are socially constructed or are realistically subjective) which then influence the individual's behaviour. It has been influential in shaping the widely held view that "perceived risk involves people's beliefs, attitudes, judgements and feelings

towards hazards and their benefits" (Royal Society, 1992) pp 89-134 and has been useful in demonstrating that different people (e.g. experts and laypeople) perceive risk differently (e.g. Wolt & Peterson, 2000; Schmidt, 2004; Allmark & Todd, 2006). Slovic (1992), pp117-178, argued that risk is quantifiable and predictable. His psychometric research considered three key factors: "the degree to which a risk is understood, the degree to which it evokes a feeling of dread and the number of people exposed to the risk." Of significance to this research is the question of who undertakes the risk assessments and is the process of that Risk Assessment understood by the HCP, the carers and the client. There is the activity of moving and handling a person and whether that client "dreads" that activity, for example, the plus sized person being moved and handled in a restricted area. It is likely that the higher is the perceived risk then the likelihood is that the person will want to find a way to reduce the effects of the identified hazards and associated risks related to these moves. Consideration around the number of people involved in the moving and handling of a client with complex needs and the hazards and risks associated with tasks, the load and the environment where the activities are being carried out, has to be evaluated and the outcomes communicated to those who are involved in the whole process.

Starr (1969) considered the voluntary and involuntary levels of risk in society whereby an individual takes a rational approach to risk which involves weighing details/information before taking a decision. Slovic et al (1982) balance this view by assuming that people routinely see risk as being unacceptably high and that the gap between voluntary and involuntary is not as important as noted by Starr (1969). Freudenburg et al (1993) argues that there is more to risk perception than just the view that additional information on its own will allow people to make decisions around risk. The safety of the client and the staff working with the client is an important consideration when planning how to move and handle a person in their home environment. A carer's view on the hazards in a client's moving and handling plan and their associated risks will potentially vary from the client's perceived view of what is a hazardous activity/move possibly attracting a high risk scoring. Understanding how people process information relating to their own situations is key to the psychological approach to risk.

The factors influencing a person's perception of risk may involve, newness of a situation, the emotional circumstances of the person and the valence theory of risk perception (Lerner et al., 2000). An individual may consider positive emotions of happiness and optimism compared to the negative emotions of fear and anger. The positive aspects of these emotions are considered as optimistic risk perceptions with the negative views relating to a pessimistic opinion of risk. The mood presented by a client may be a potential example of these differing emotions.

The Psychometric Paradigm has also been influential in approaches to risk management like safety culture. Glennon (1982), pp23-28, maintained that safety culture is a "complex causal process" which considers policies, procedures and structures which have an influence on individuals' perceptions. This view can be considered as the manual handling policy, the MHRA which influences the procedures for moving and handling a client and the structure of care provided to meet the client's needs in a community setting. Flin et al (2006), pp177, maintain that "measuring safety climate in healthcare helps to diagnose the underlying safety culture of an organization or work unit." Rundmo (1997), pp75, applying the psychometric paradigm to safety culture considered the role of the individual and the application of risk perception in a given situation. Hazard identification and who may be harmed, referred to in the research model as risk perception, can potentially inform safety culture where this culture, is " the product of individual and group values, attitudes, perceptions, competencies and patterns of behavior that determine the commitment to, and the style and proficiency of an organisation's safety management." (Flin et al., 2006, p177; Kim and Wang, 2009, p63), believe that the psychometric paradigm can be used to explain "the mental processes and calculations of safety culture at the individual level." These views are consistent with the development of the research questions on MHRA, community setting and clinical reasoning and can be considered when examining and developing the inter-related role of risk perception, risk decision making and risk communication in the subjective risk assessment process.

The psychometric paradigm is not without its limitations though (e.g. Siegrist et al., 2005) but criticisms have tended to be about how data from questionnaire studies are aggregated and analysed, and not about underlying assumptions.

According to the Psychometric Paradigm (Slovic, 1987; 1992) different health care professionals may perceive hazards differently and / or assess the likelihood of hazards to cause harm differently, which makes conducting a MHRA a subjective procedure. This research argues that the assessors, the HCPs, will use their perceptions of risk, their decision making skills around these risks in combination with their clinical reasoning to compile a MHRA for their client. They will then communicate the outcomes as a way of informing and ensuring that their clients moving and handling needs are adequately addressed. The extent to which they combine this information it is argued is directly related to their experience. (Chapter 4).

5.9 Chapter Summary

This chapter has presented the proposed model and explained the constituent elements involved in each stage of its development. The model was built around the use of the HSE's 'Five Step to Risk Assessment' to start to investigate the research questions which are considering MHRA, community settings and clinical reasoning. , It was argued that these 'Five Steps' can be thought of as cyclical in nature, and that the steps can be understood through processes of Risk Perception, Risk Decision-Making, and Risk Communication. Research in this area has recognized the value of multidisciplinary approaches, and this thesis has considered and reviewed the merits of sociological and psychological approaches to risk for investigating the research questions. The Psychometric Paradigm was adopted to investigate the research questions as it was argued that this approach was appropriate because different healthcare professionals working in the community, using their clinical reasoning will perceive hazards and evaluate risks differently. This model of risk assessment is consistent with the Psychometric Paradigm in that perception influences risk-decision making so as to effect behaviour / action. It is also consistent with the Best Practice advice about MRHA from various professional bodies. It is assumed that different HCPs will perceive risk differently and that their attitudes and views of risk will be influenced by their knowledge, training and experience ranging from Novice to Expert. Thus, this thesis adopted this model as a basis for investigating the research questions on MHRA, Community Setting and Clinical Reasoning. Figure 5.4 represents the Proposed Model.
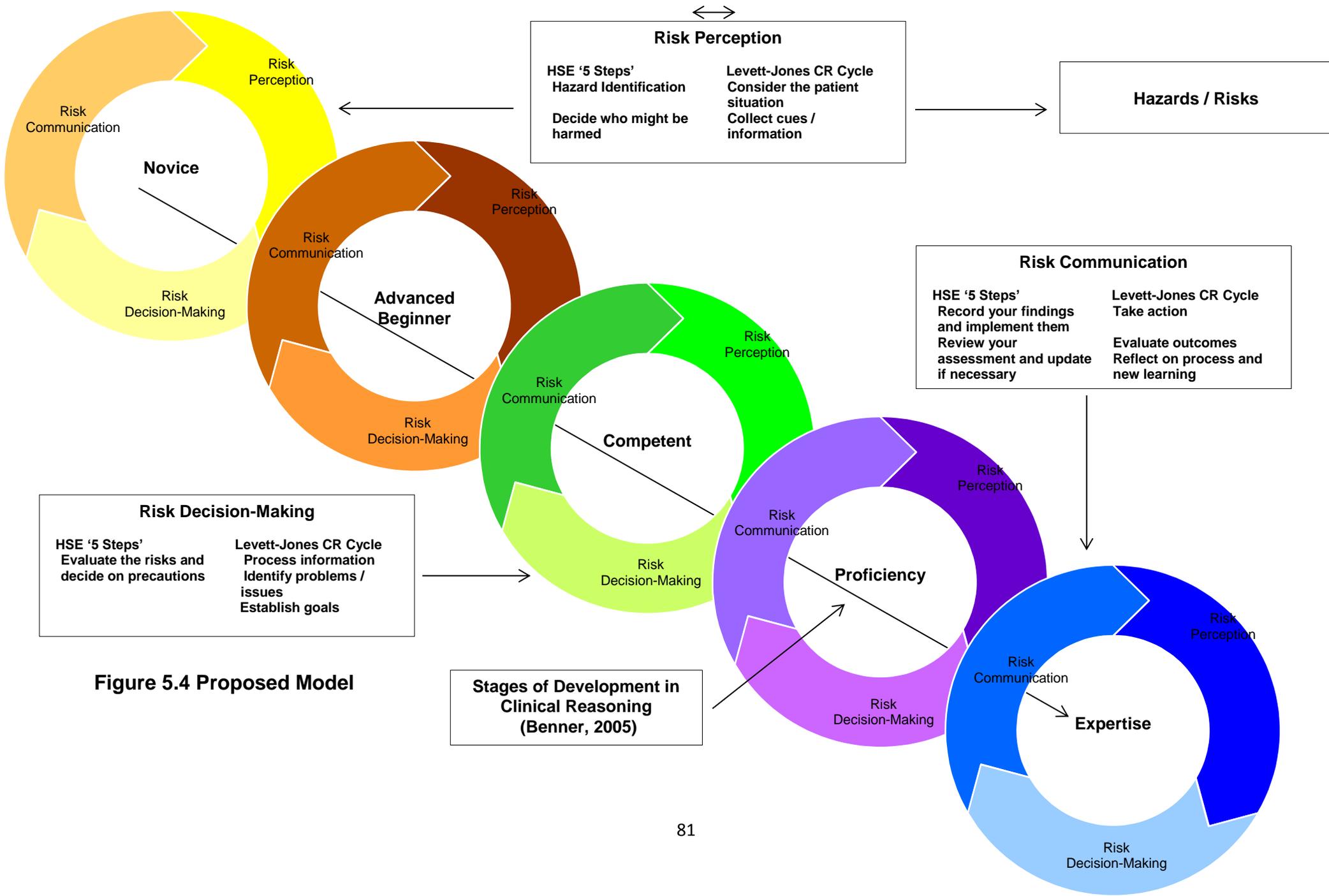
Figure 5.4 Proposed Model

Novice

Risk Perception
Risk Communication
Risk Decision-Making

Advanced Beginner

Risk Perception
Risk Communication
Risk Decision-Making

Competent

Risk Perception
Risk Communication
Risk Decision-Making

Proficiency

Risk Perception
Risk Communication
Risk Decision-Making

Expertise

Risk Perception
Risk Communication
Risk Decision-Making

Risk Perception

HSE '5 Steps'
Hazard Identification

Decide who might be harmed

Levett-Jones CR Cycle
Consider the patient situation

Collect cues / information

Hazards / Risks

Risk Communication

HSE '5 Steps'
Record your findings and implement them
Review your assessment and update if necessary

Levett-Jones CR Cycle
Take action

Evaluate outcomes
Reflect on process and new learning

Risk Decision-Making

HSE '5 Steps'
Evaluate the risks and decide on precautions

Levett-Jones CR Cycle
Process information
Identify problems / issues
Establish goals

Stages of Development in Clinical Reasoning (Benner, 2005)

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Chapter 6: Methodology

6.1 Introduction

This chapter explains and puts in context the research philosophy, design and methods used to investigate the research questions. The narrative considers the relationship between MHRA, Community Setting and Clinical Reasoning. Previous discussion (see Chapter 5) has explained the reasoning behind the use of the psychometric paradigm which is embedded in the research philosophy underpinning this thesis. The research design is presented as qualitative data collection with thematic analysis. Two clinical case studies (or personas) were developed and used for workshops with healthcare professionals. At these workshops a 'Think Aloud' procedure was employed to investigate how the HCPs used their clinical reasoning to conduct MHRA in community settings. The data from the workshops informed the development of semi-structured interviews, which were used to investigate the effect of experience. This data was used to develop a model and a set of level descriptors of clinical reasoning in MHRA Lastly, participant validation interviews were conducted to provide validation of the proposed model. All of the above issues are considered in detail in the following sections.

6.2 Research Philosophy

Positivism and Phenomenology are two ontological (theoretical) approaches that are noted within healthcare studies. Positivism assumes that the social world exists objectively and usually implies measuring actions quantitatively. Broom and Willis (2007) consider the quantifiable and objective scientific facts relating to the body and biomedical models of disease and conditions. This positivist method of study looks at the physical object/individual/person and assumes that conditions can be measured and controlled. Bryman (2001), p30, focuses on the positivist approach to research by testing hypotheses by "quantifying human behavior."

The phenomenological approach suggests that reality is not objective and that the meaning of events, concepts and objectives is constructed and interpreted by people, through their thought processes and social interactions. Mattingly's (1991) work on clinical reasoning is closely associated with the Phenomenological model of healthcare research. This approach considers the lived experience of patients. Greenfield (2010) explains the phenomenological approach to ethical decision making around patients as examining, uncovering and interpreting the predominantly qualitative details that patients relate to clinicians about their conditions. Easterby-Smith et al (1992) summarises these two paradigms to show the objective realization to Positivism and the multiple realities associated with Phenomenology.

Table 6.1: Summary of Positivist and Phenomenological Paradigms

	Positivist paradigm	Phenomenological paradigm
Basic beliefs	The world is external and objective.	The world is socially constructed and subjective.
	The observer is independent.	The observer is a party to what is being observed.
	Science is value-free.	Science is driven by human interests.
The researcher should	Focus on facts	Focus on meanings
	Locate causality between variables	Try to understand what is happening
	Formulate and test hypotheses	Construct theories and models from the
	(deductive approach)	(inductive approach)
Methods include	Operationalizing concepts so that they can be	Using multiple methods to establish
	measured	different views of a phenomenon
	Using large samples from which to	Using small samples researched in depth
	Generalise to the population	or over time
	Quantitative methods	Qualitative methods

Source: Adapted from Easterby Smith et al 2002. In Gray D.E. Doing research in the real world. 2nd edition

Positivists view the natural and social worlds as being guided and influenced by an exacting set of rules and laws. In relation to this research the positivist approach could look at the number of risk assessments carried out by staff using a set group of patients, they may consider the number of hoisting sessions undertaken by patients with the same conditions in their own homes over a set period of time. The observer must be independent of what is being observed and the researcher should allow the quantitative data collected to be interpreted and analyzed by statistical objective methods. Gray (2009) summarizes the positivist approach as:

- Reality consists of what is available to the senses (e.g. what can be seen, smelt, touched)
- Inquiry should be based upon scientific observation (as opposed to philosophical speculation), and therefore on empirical inquiry
- The natural and human sciences share common logical and methodological principles, dealing with facts and not with values.

The qualitative phenomenological style, (Husserl,1970; Lester,1999) note that phenomenological research begins from a hypotheses free stance, that the researcher is involved in the data collection and analysis but that there has to be a conscious effort by the researcher to stand back from his/her understanding of phenomena, relook at his/her present experiences so that new and potentially different meanings can be allowed to emerge. Gray (2009), p171 notes that 'current understandings have to be 'bracketed' to the best of our ability to allow phenomena to 'speak for themselves', unadulterated by our preconceptions." There is a subjective look at the subject under discussion with a view to the researcher placing him/herself in the position of the subject. Chell (1999) maintains that phenomenology assumes the uniqueness of individual consciousness.

6.3 Research Design

I adopted the phenomenological approach to investigate the research questions which consider MHRA, Community Setting and Clinical Reasoning. This research

is set within my working environment where I advise, supply and support a range of specialist assistive technology products used to move and handle clients in various clinical settings. I used this experience and the contacts within the healthcare professions and their organisations to access participants and to engage them in my research. The phenomenological approach is also consistent with the Psychometric Paradigm (See Chapter 5) as it considers that risk is determined by an individual's perceptions which then influence the individual's behavior. The view is that different people (e.g. experts and laypeople) can perceive risk differently.

Consistent with the Phenomenological Approach, I adopted a 'Qualitative Research Design' to investigate the research questions on MHRA, community setting and clinical reasoning and then conducted a thematic analysis of the data. This was appropriate as the research set out to describe how healthcare professionals use clinical reasoning in MHRAs rather than measure specific phenomena or test specific hypotheses (Cassell & Symon, 2004). Figure 6.1 defines the overall research plan.

Figure 6.1: Research Plan

| Problem / Question Identification |
| Literature Review |
| Pilot Study (Develop Case Studies / Personas) |
| Workshops (Think Aloud procedure) |
| Thematic Analysis |
| Semi-Structured Interviews |
| Thematic Analysis |
| Participant Validation Interviews |
| Verification |

In scoping the research problem, it was identified that people with complex clinical needs were living at home and were requiring use of, as part of their care, a range of different items of assistive technology equipment. The questions became focused on the role of clinical reasoning and how HCPs conduct MRHAs in a community setting. Current literature is focused on the acute sector; comparatively little research has been conducted on moving and handling clients, or clinical reasoning in the community setting, although there are many NHS and Social Services policy documents. The literature on MHRA for dealing with clients in their own home setting is limited to studies on the use of hoists in the home (Coneeley, 1998), working conditions for care providers in home settings (Markkanen et al., 2007), spinal kinematics (Szeto et al., 2013), and safe patient transfers (Skolind-Ohman, 2011). How HCPs perceive and make decisions about risk in MHRAs in a defined community setting is largely unknown.

The pilot study was included in the design to allow me to engage with experienced HCPs who were actively involved as part of their professional work practice in moving and handling clients in the community. This gave me the opportunity to consult about / develop the research methods (workshops, semi-structured interviews) and to develop case studies (or personas) which were to be used in the workshops. The following section explains how the case studies / personas were developed, and considers their appropriateness in this research.

6.4 Developing the Case Studies / Personas

Vincent and Blandford (2014), p1097, consider that Personas are "useful in supporting the transfer of knowledge across professional perspectives." Originating around the design of medical equipment and its use, personas can help in representing the user of the equipment or the service where they are not always able to do so in a physical presence. In terms of this research there is the concept of a "hypothetical user archetype," Cooper (1996), p123 ,which considers the community setting, defines the medical conditions of the clients, their key characteristics, the use of specific case study detail (for example, MS, SCI/Obese/Comorbidities, CP, CVA) along with recognised qualitative thematic analysis to provide four personas

which can be used to support HCPs undertaking MHRA in the community setting. Mulder (2015) contends that Personas can be created depending on many different factors. These include the audience at which the persona is aimed and how the persona is intended to be used. Outcomes from the use of the Persona can be captured depending on the type of research that is being studied and the analysis that may be drawn from the three key approaches.

These are:

- Qualitative personas
- Qualitative personas with quantitative validation
- Quantitative personas.

As per Figure 6.2, this research adopted a qualitative approach which is open ended, offers an insight into what participants think, act and do and can give some direction to new ideas or reveal issues which have previously not been examined and could be tested. For example, it is possible, to use the Jack and Jenny Personas to look at the themes emerging from the data collection.

Figure 6.2: Qualitative and Quantitative Approach to Creating and Using Personas in Research (Mulder, 2015)

Four common research methods paint a complete portrait of users.
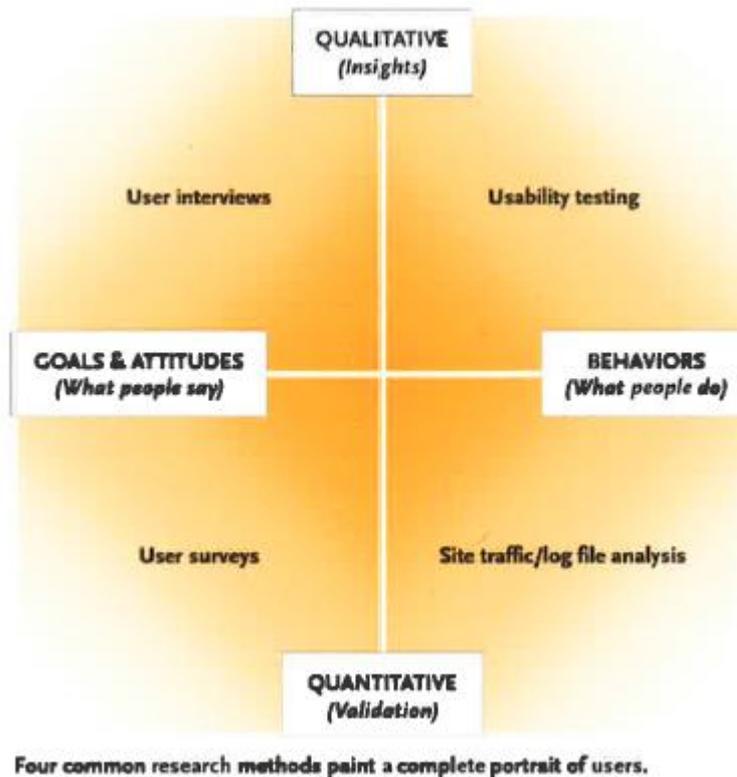
Figure 6.3 shows the importance of behaviours, goals, interviews as key methods in developing the qualitative persona process.

This research adopted a qualitative design approach.

- Discovering new things with a recognized sample size; user interviews and usability participation and testing
- To uncover new ideas and obtain previously unknown issues; workshops and think aloud sessions for community healthcare professionals in a non clinical setting
- The research was open ended and perhaps revealed things that the researcher didn't know; the use of the personas to identify hazards and then use this data to evaluate the associated risks

Figure 6.3: The Qualitative Persona Process (Mulder, 2015)

The qualitative persona process.
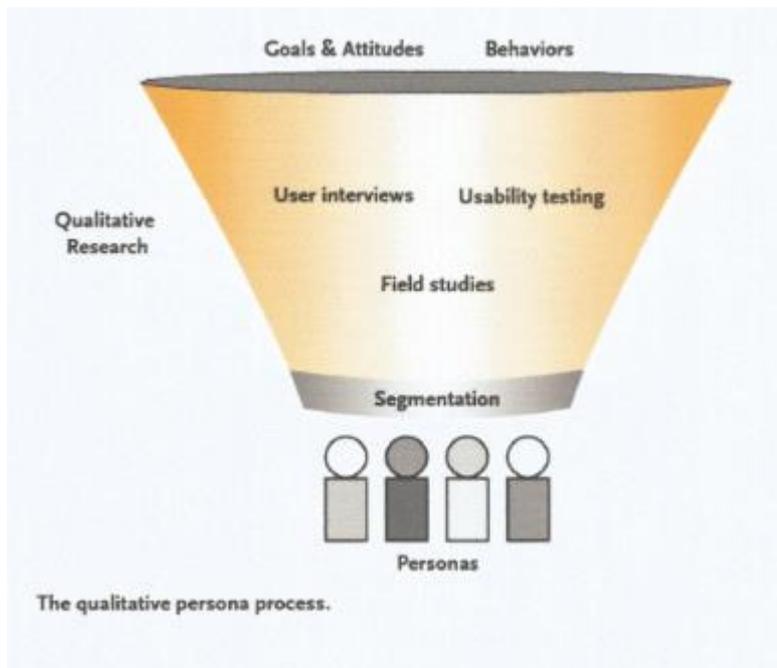
Mulder (2015) suggests that qualitative research is often telling the researcher 'why' something is happening whereas with quantitative research it is more inclined to lead towards 'what' is happening in the study.

6.4.1 Procedure for Developing the Case Studies / Personas

I negotiated research access to the participating organisations by drawing on my pre-existing working relationships with senior healthcare professionals in those organisations. I met with six senior health care professionals from the Edinburgh-based organisations (the pilot group) to develop the format for the workshops, and the client cases and forms that participants would use to conduct manual handling risk assessments of those client cases at the workshops. When negotiating access with Aberdeen-based organisations, senior healthcare professionals-managers there agreed to the same format for the workshops, and that the client cases were appropriate and that the MHRA workshop forms were consistent with their procedures. At least one senior health care professional-manger participated in each workshop as a facilitator.

In order to ensure client confidentiality, the six senior healthcare professionals (herein referred to as the pilot group) assisted in the development of client cases for the workshops based on actual clients, but that these would not include any identifying information. Four case studies were developed and considered initially (See Figures 6.4 – 6.7 below).

Figure 6.4: Persona – Jack Smith

Name: Jack Smith

Age: 50 years

Condition: MS

Behaviours: Potential to be unresponsive, verbally aggressive, reluctant to help or be helped

Daily Routines: Limited input of carers. Some help accepted from friends

Activities for Daily Living: Limited to what he can access in his home. TV, radio for entertainment. Needs assistance with personal care

Challenges: MHRA shows the following key hazards

Persona – Jack Smith
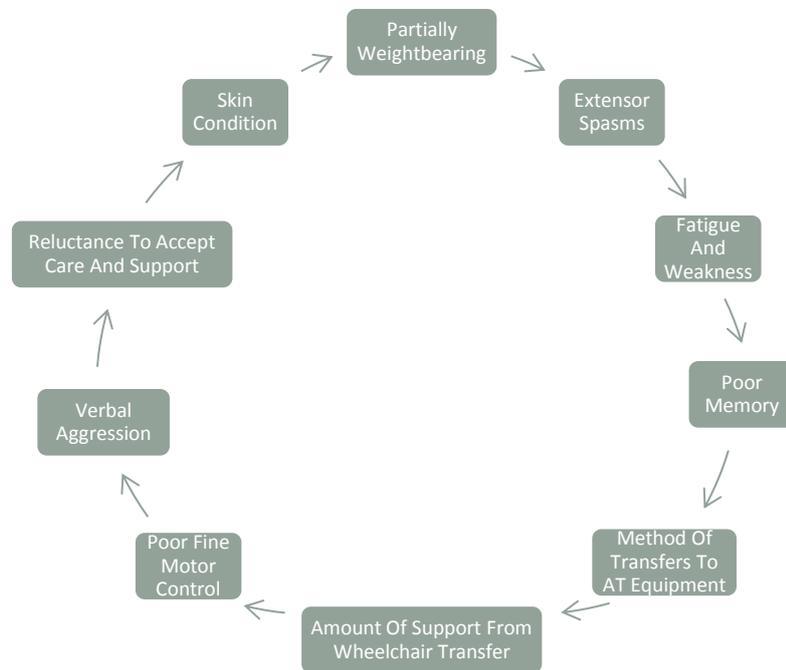
Goals: Review of transfers and assessment of mobility and moving and handling needs

    Attempt to introduce variety into his daily activities and encourage some external interests

    Understand his frustration and address his anger and aggression

Figure 6.5: Persona – Jenny Jones
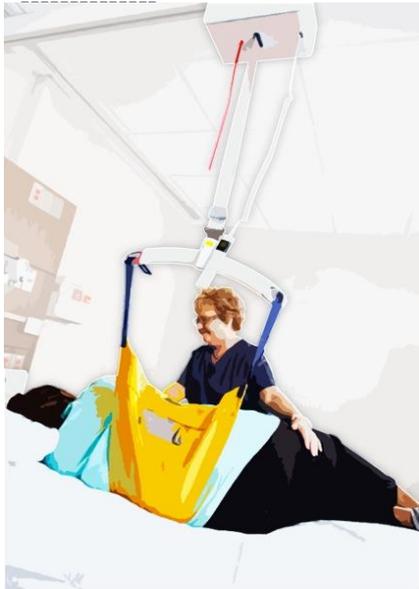
Jenny Jones

Name:	Jenny Jones
Age:	45 years
Condition:	Spinal Cord Injury, Obese and Comorbidities
Behaviours:	Mood, Attitude to Carers
Daily Routines:	Carers and friends assist
Activities for Daily Living:	Stays at home and only goes out for medical appointments
Challenges:	MHRA shows the following key hazards

Jenny Jones
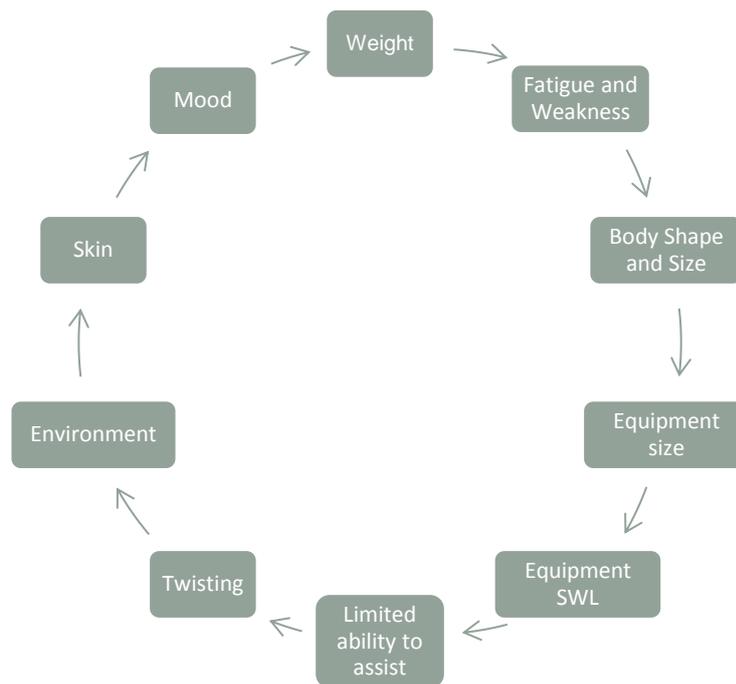
Goals:

To provide access around the house and ensure that Moving and Handling provision is adequate and suitable

Explore opportunities to engage with other people and suggest outside interests

Review healthcare needs with other professionals

To identify, discuss, consider what would make her life easier

Figure 6.6: Persona – David Lawson

Name:	David Lawson
Age:	10 years
Condition:	Severe Dystonic Cerebral Palsy, Comorbidities
Behaviours:	Complex and Extensive, Unsettled, Insecure when handled
Daily Routines:	Requires full assistance in all daily activities
Activities for Daily Living:	Limited due to medical issues
Challenges:	MHRA shows the following key hazards

David Lawson
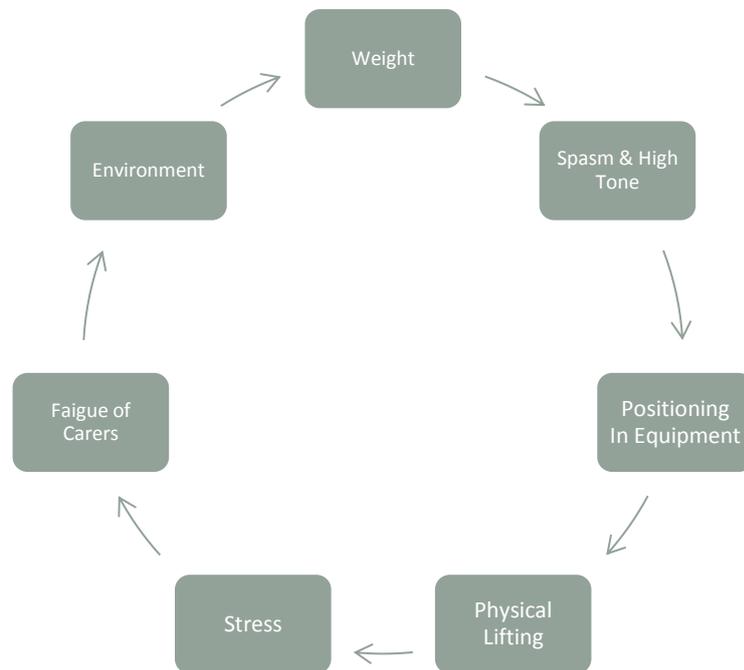
Goals: Package of care at home and respite care for David

Use of appropriate AT equipment to assist in Postural Management Programme

Professional assistance for family

Figure 6.7: Persona – Janice Brown


Name: Janice Brown

Age: 57 years

Condition: Stroke (CVA)

Behaviours: Anxious about moving and handling. Lacks motivation

Daily Routines: Carers and friends assist

Activities for Daily Living: Spends time at home in bed and in her chair

Challenges: MHRA shows the following key hazards

Janice Brown
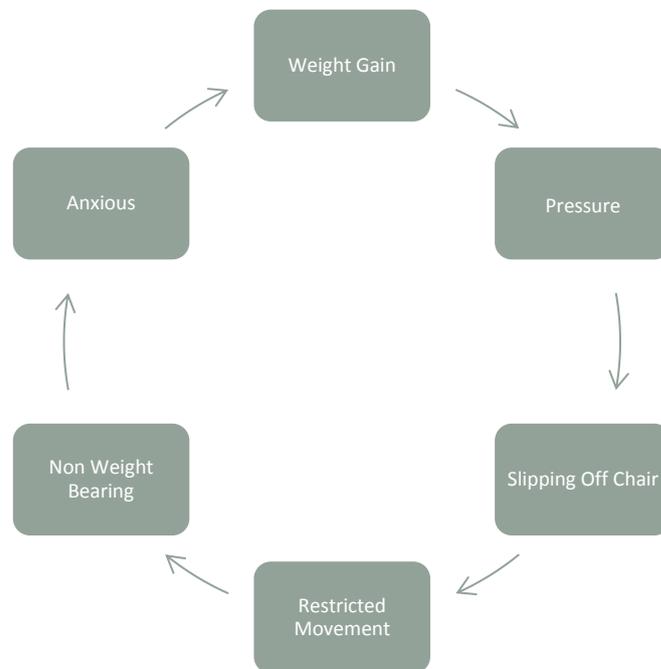
Goals: Review moving and handling equipment and consider more supportive seating

   Introduce ideas of different social activities to encourage outside interests

    Discuss professional advice from a physiotherapists and dietician

To develop the personas, the pilot group generated a list of hazards and associated risks present in each client case and recommended a range of assistive technology devices for which participants should be given training / consider using, to construct their manual handling risk assessments at the workshops. After the pilot study meeting, I met with the CEC facilitator and produced answer sheets for each client case based on the actual clients' assessments and outcomes.

The pilot group accepted that all four case studies represent typical complex cases found in the community. They are all full of rich and relevant moving and handling detail. The pilot group commented on the use of the case studies for other healthcare discussions. For example, Tissue Viability, Continence Management, Respite needs, Care Packages. They mentioned that this type of training was new to them and that it would be useful to gauge its effectiveness. After the workshops, evaluation sheets from the participants would be analysed by the workforce planning and senior professionals to indicate its effectiveness to practice and development within their services.

All four case studies were discussed by the pilot group as being indicative of community work and are representative of cases being dealt with by HCPs on a regular basis. It was important for the HCPs to use existing skills and learn new ideas and methods of moving and handling complex cases. In particular, Jenny was noted as meeting the World Health Organisation (2014) definition of obese. She had a BMI (person's weight in kilograms divided by the square of a person's height in metres kg/m2) greater than or equal to 30. (Fact sheet 311. Reviewed May 2014) www.who.int/en.The pilot group thought that by using Jenny's case in a workshop that staff could discuss, agree/disagree, practice with equipment, evaluate techniques used with the equipment. They could come up with a realistic and worked example of a MHRA for a plus size person living in the community. In the absence of any specific official risk assessment documentation from the participating employers it was agreed that the details that I provided would meet the needs of the groups attending the workshops. The NBE (2011) HOP 6 p193 "Bariatric moving and handling assessment checklist for home use" was available for reference at the workshops. This document gave a useable format to participants which could provide a focus and guidance on the key issues as a 'record of service users who are bariatric who have exceptional needs.' In place of the word exceptional, complex could be used in terms of the discussion in the workshop.

There was additional discussion around allocating the correct time to studying the cases in detail. Staff would only be released from their work commitments for one

day of the workshop. We agreed on two actual clients to use as the basis for the workshop cases given the increasing number of similar people presenting in community settings (see Figures 6.8 and 6.9 for the 'Jack and 'Jenny' cases). The group agreed that two would be sufficient as this type of workshop would be potentially new ground and possibly challenging to most of the staff. Keeping it simple but informative would be the most effective way to organize and run the workshops. The pilot group thought that each participant should only focus on one case study (i.e. either Jack or Jenny) but both case studies could be considered by different groups within each workshop. It was agreed by the pilot team that two groups of up to six people per group would be a good size of team and work best for the workshops. People were likely to interact better in smaller informal groups. It was hoped that there would be more time to interact and share factual as well as encouraging spontaneous response and ideas. Although they were all HCPs there was the potential for members of the teams to be meeting at the workshops for the first time. It was agreed with the facilitators to email the participants in advance with the case studies so that the participants would arrive prepared for the workshop timetable to run. It was pointed out that the use of different assistive technology equipment would be an important part of the workshop programme. I suggested that a follow up day on the equipment could be carried out in their local authority area to demonstrate and involve the participants in the adjustment and alteration of the equipment which they saw and used in the workshops. (Appendix 25). The content of these sessions could describe equipment that potentially could be used, due to its adjustability and modular make up, for the personas of the clients who were featured in the case studies.

The pilot team was positive about keeping all the cases on file and using them as a professional development tool with existing staff and also introducing them to new staff. The participants would be encouraged to write up their CPD reflection accounts using the workshop programme. Evaluation sheets on the workshops would be completed (Appendices 21-23).

6.5 Jack and Jenny Case Studies

This section presents the materials used for the 'Jack' and 'Jenny' case studies. Workshop participants were sent a package which included the Jack and Jenny client cases, two weeks prior to their workshop. 'Jack' is based on an actual client with multiple sclerosis who is living at home and being cared for within the community. Figure 6.8 gives the 'Jack' case study material included in the pre-workshop package. 'Jenny' is based on an actual client who is paraplegic and morbidly obese, and who lives at home and is being care for within the community. Figure 5.9 gives the 'Jenny' case study material included in the pre-workshop package.

Figure 6.8: Client Case - Jack

Summary of Personal Circumstances: Jack is a fifty year old single man who gave up his work last year. He has MS and spends most of his time at home. He doesn't socialise easily and all attempts to encourage him to attend the local MS group have been turned down. He transfers from chair to chair and bed to chair in a very unconventional sideways move. He doesn't use a transfer board but prefers to pull himself across using the opposite wheelchair arm. One carer visits twice a day to provide minimal assistance and supervision when Jack is transferring. Recently the carers reported that Jack has been complaining of weakness/fatigue after he has transferred. He fell twice in the last two weeks and has required to be hoisted. The carers used a manual mobile hoist to hoist Jack from the floor, this required excessive effort to hoist him from the floor. The carers also found it challenging because Jack is very resistant to being moved in the hoist and would have preferred the carers to lift him from the floor.
Client/Carer View of current situation: Jack is reluctant to consider any type of hoist to assist him with transfers. He feels that this will remove his independence. Jack also states he does not require assistance from the home carers and only reluctantly agreed to the package of care after his friend, who previously helped him around the house, moved away.
Profile of Client
What health problems does the person have? MS – first diagnosed in 1982
What is the person's physical status? Height – 6ft (1.83m), Weight – 11st 7lb Jack is able to turn himself in bed using the bed rails on his hospital bed. He requires assistance to sit up in bed, but once upright is able to sit independently on the edge of the bed. Jack has good grip strength in both hands, he has some difficulty with fine motor control particularly when he is tired. Jack often experiences extensor spasm when carers try to move him in bed and when attempting to apply the hoist sling.

Figure 6.9: Client Case- Jenny

Summary of Personal Circumstances:
Jenny is a 45 year old woman who lives alone in a wheelchair accessible bungalow. Jenny was in a car accident in 1995 and suffered a spinal cord injury at T7/8. She is unable to get out of the house without support. In the past year she has only left the house for hospital appointments when a specially adapted ambulance was arranged. Jenny doesn't have any relatives that she keeps in contact with but she has a few neighbours who will help her with tasks such as shopping, paying bills and arranging minor repairs for the house. Jenny has a number of medical issues including type 2 diabetes and high blood pressure. She has a good relationship with her GP and he visits her at home every 2 weeks. He is keen for an increase in her package of care to support her at home. She currently has visits from 2 carers morning and night to help with personal care and transfers in and out of bed. Her weight is a major concern. She is unable to move her legs because of her weight and reduced strength and is unable to transfer independently. She has several pieces of equipment in the house which the carers have difficulty using, partly because of Jenny's weight and size but also because they find the equipment doesn't work well together. The carers have repeatedly raised concerns about moving and handling. Jenny has limited ability to assist with her care needs and has a changeable attitude towards all carers.
Client/Carer View of current situation:
Jenny experiences low mood and has been prescribed anti-depressants by her GP. She agrees with her GP that an increased package of care will help her to manage better at home, but is reluctant for more carers to be involved in her care. She does not like to talk about her weight and can become weepy or angry when discussing her increasing care needs and the prospect of changing her home and routine.
Profile of Client
What health problems does the person have? Paraplegia (T7/8) following a car accident in 1995 High blood pressure Type 2 Diabetes Low Mood Bowel and Bladder problems

As mentioned, workshop participants were sent both client cases before the workshops in a pre-workshop package. They were encouraged to consider the client cases before the workshops and informed that they would be working in groups during the workshops on one of the client cases. Please refer to Appendices 12 and 15 for a worked example of a Jack and Jenny worksheet.

6.6 Limitations of Case Studies / Personas

A limitation of the use of Personas could be using either qualitative or quantitative personas when possibly qualitative personas with a quantitative validation would potentially give a more rounded research approach. That said, this study has been consistent in the application of qualitative research with thematic analysis and so the use of qualitative personas was considered the most appropriate approach to answering this research questions on MHRA, community setting and clinical reasoning in relation to the four case studies.

Further limitations of Personas may be where public bodies like social work and the NHS may need quantitative evidence to use the research data in their moving and handling policies and procedures. The evidence from the think aloud sessions and the phenomenological approach of this research indicates that HCPs do take a qualitative approach to MHRA and to patient care. They understand the use of quantitative information but have indicated that as people are involved in being moved and handled that it is important to consider what the person thinks and include the opinions and views of those who care for them in different community settings. It is argued that to answer the research questions on MHRA, Community Setting and Clinical Reasoning that the HCPs may not need to consider quantitative data to accept the use of Personas.

Not all the HCPs involved in the research were aware of the concept of Personas and the use that could be made of them in their Moving and Handling clinical practice. This issue was addressed at the Participant Validation Interviews along with the Case Based Reasoning concept. Once the details on the Personas were explained and the diagrams were shown to the participating HCPs, the realistic and

important benefits of the Personas were agreed as being relevant to their MHRA process.

The research has considered the person's home as the place where care is delivered. The HCP spoke aloud about the community, the environment specific to the home setting and as such the four personas gave an insight and indication of the 'real life' factors surrounding care in individual domestic places. There is the potential to accept existing assumptions relating to the research that is being undertaken. This is especially the case when the HCPs were the key people to be interviewed. There is the potential to carry over these assumptions into the interviews. This research attempted to address this possible bias by returning to the HCPs at the Participant Validation Interviews and asking them to validate the level descriptors, the themes and the key factors in the research.

There is some concern about the use of personas where the actual person is not involved in the research. Matthews et al (2012) considers whether there is the potential for contra information based on the views of other users or where there is the potential for limitation on the issues/conditions under discussion. The way in which personas are constructed and the level of detail included in them may vary and be used to further the views of individuals rather than following a process that is clear precise and breaks down the constituent elements of the persona into a step by step practical and technique led approach (Adlin and Pruit 2011).

The use of Persona as a research method can supplement various Knowledge Elicitation (KE) techniques, for example, think aloud and group interviews. Vincent and Blandford (2014). The use of Personas in healthcare is recognised by Knibbe et al 1998. Arjo Huntleigh Mobility Gallery stated five named clients in their assessment tool which is based on the work by Knibbe et al (2008) where they use elderly care images and images of bariatric clients to assist in the design and planning of health facilities. This Persona concept was used in this research to develop a process that would allow healthcare professionals to consider other cases which can be associated with the finding of each of the four clients (Jack, Jenny, Janice, David). It is suggested that the HCPs could link the Perssonas to the thematic analysis and the five themes developed in the workshops and interviews and use the tables as part of

their MHRA process in the identification of hazards and their associated risks when dealing with similar clients presenting in their caseloads in the community.

6.7 Workshops and the 'Think Aloud' Procedure

Workshops were conducted at three training centres equipped with assistive technology used in the manual handling of patients. This created an appropriate environment for participants to engage in a 'think aloud' discussion of the 'Jack' and 'Jenny' cases without disturbing patients / clients which would occur in a clinical setting. It also afforded participants a suitable training environment so that they could express their thoughts more freely than in a clinical setting. The remainder of this section gives details and justifications for the workshops and the 'Think Aloud' procedure.

6.7.1 Participants for the Workshops

Participants were drawn from two Scottish local authorities / NHS Scotland Health Boards, (broadly Aberdeen and Edinburgh). (Appendices 4, 7 part 1 and 8 part 1). They were recruited for voluntary participation in this research through the pilot group, who agreed to recruit participants with a broad range of experience. Participants were assigned to either the 'Jack' or 'Jenny' case study at their workshop (there was only one 'Jack' group and one 'Jenny' group at each workshop) to ensure a mix of work experience within each group, so as to replicate participants' working conditions and facilitate learning. Three workshops were conducted for Aberdeen- based participants over a 10 month period (September 2012 – June 2013). Across these workshops there were 3 'Jack' and 3 'Jenny' groups comprising a total of 20 participants. Six workshops were conducted for Edinburgh-based participants over a five month period (November 2011- March 2012). Across these workshops there were six 'Jack' and six 'Jenny' groups comprising a total of 57 participants. Thus, a total of 77 health care professionals participated in the workshops. Each workshop lasted five hours (10.30 am -3.30 pm).

6.7.2 Procedure for the Workshops

Participants were sent the 'Jack' and 'Jenny' case study materials two weeks before their workshop. The purpose of this was to allow them to familiarise themselves with the case study materials and think about a manual handling risk assessment for each case. Participants at each workshop were assigned to either 'Jack' or 'Jenny' case study groups. Each group comprised participants of mixed work experience, so as to replicate participants' working conditions and facilitate learning. I led the workshops but was assisted by one or two facilitators at each workshop. The facilitators were experienced healthcare professionals and were part of the pilot group involved in the development of the 'Jack' and 'Jenny' case study materials. During the workshops, they were involved in demonstrating how to use some of the assistive technology devices and were interested in evaluating the workshops for future training purposes.

At the start of each workshop, I reminded participants that although the workshop was a training workshop about using assistive technology (e.g. hoists) in the manual handling of patients in a community setting, the data from the workshops would be used as part of my PhD to investigate the role of clinical reasoning in manual handling risk assessments in community settings. I informed them that as the workshop forms they would submit would be anonymous, and that as I was not recording participant's names in the notes I would make, I would not be able to remove any individual participant's workshop data from the analysis.

I gave participants a short presentation about hazards and risk. In accordance with HSE terminology, a hazard was explained to be anything that has the potential to cause harm. Similarly, a risk was explained to be the chance or likelihood, however large or small, that a hazard will result in harm. Participants were then assigned to either a 'Jack' or 'Jenny' case study group. If they had not done so before the workshop, participants were asked to identify any hazards they perceived in the case study on the workshop sheets that had been sent to them, and to note their reasoning. Then, I asked each group to discuss amongst themselves the hazards the constituent individual group members had identified, and for each group to generate a list of hazards that they thought should be risk assessed.

Figure 6.10: Photograph of participants in their group discussing perceived hazards

I reviewed the risk matrix from the NHS Scotland Manual Handling Passport Information Scheme (2011) (Appendix 1) with participants to ensure that all participants were familiar with this format. The use of this matrix ensured that all the participants had the same details to allow them to colour code the risk ratings for the hazards they identified. The matrix was the version that was currently being used by professionals at the time of the workshops. Figure 6.11 below shows the risk matrix. Each group recorded a risk rating for each of the hazards they identified, along with a justification for the risk rating.

Figure 6.11: Risk Matrix from NHS Scotland Manual Handling Passport Information Scheme (2011)

Likelihood		Impact / Consequence				
		Negligible	Minor	Moderate	Major	Extreme
		1	2	3	4	5
Almost Certain	5	Medium	High	High	V High	V High
Likely	4	Medium	Medium	High	High	V High
Possible	3	Low	Medium	Medium	High	High
Unlikely	2	Low	Medium	Medium	Medium	High
Rarely	1	Low	Low	Low	Medium	Medium

As part of developing the 'Jack' and 'Jenny' case studies, the facilitators considered assistive technology devices and their set-up within Jack's and Jenny's homes. The facilitators and I had created areas of the training room accordingly so that workshop participants could view and use this equipment in order to inform the development of their Manual Handling Risk Assessments. The workshops progressed with 'Jack' participants being asked to move to a different area where Jack's living and bedroom areas had been created. Jenny's bedroom and wet room were set up in an adjacent area.

The facilitators and I demonstrated the use of the equipment to the participant groups so that they could use and adjust the equipment (e.g. how to adjust the height of the seat, the depth of the chair, the person's position in the sling, and the footprint of the equipment suitable for use in a domestic setting). It was then up to participant groups to decide how equipment should be used in relation to the hazards they identified and their associated risks.

Figure 6.12 Participants using Assistive Technology equipment to assess their hazards and risks

Within each group, one participant volunteered to 'play' Jack / Jenny. The rest of the group used their risk ratings to develop a MHRA by using the equipment to undertake various manual handling manoeuvres on 'Jack / Jenny' that carers would have to execute in order to care for Jack / Jenny in his/her home (e.g. moving Jack from bed to chair, chair to bed, chair to chair, the floor to bed). Participants were asked to 'Think Aloud' about how these manoeuvres should be completed given their risk ratings and how this information should be communicated to other healthcare professionals / carers. Facilitators observed participants while they were completing the various manoeuvres and took digital photographs for the participants to use while presenting their MHRAs at the

feedback part of the workshop. I noted the comments made by each group while they were 'thinking aloud'.

Figure 6.13: Participants using a Standing Hoist to explain their clinical reasoning in relation to Jack's moving and handling needs

Figure 6.14: Participants working through the moving and handling needs of Jenny

Figure 6.15: Participants 'thinking aloud' about the stages in moving Jack from a bed to a chair

Participants then presented their MHRAs along with their reasoning. The 'Jack' group presented its MHRA to the 'Jenny' group and vice versa. I made further notes about each group's decisions and their espoused reasoning. I led a discussion about common issues raised in the presentations and I made notes about participants' comments as there was too much back ground noise to accurately audio record all the details that were being discussed. I wrote all the notes as the various points about hazards and risks were presented. I added in additional comments that some of the participants made.

I collected the completed individual response sheets (Appendices 12, 14, 15) and other relevant notes from each group for analysis. I then presented 'answer sheets' (Appendices 7 parts 2 and 8 parts 2) which had been developed by the pilot group and me for each case study, and I explained the reasoning behind those answers.

The workshop concluded with facilitators issuing participants with evaluation forms (Appendices 21, 21, 23). The forms gave the participants an option to participate in semi-structured interviews. I thanked participants for their time and ensured that they had my contact details in case they wanted me to send them a copy of my research findings.

6.7.3 The 'Think Aloud' Procedure

The main form of data collection that I used in the case study workshops was the 'Think Aloud' procedure. The 'Think Aloud' approach is a qualitative research method widely used in psychology to investigate thought processes. Although it is normally used with individuals, the 'Think Aloud' procedure has been used in small groups (Kassirer & Kopelman, 1991; White et al., 1992).

The 'Think Aloud' procedure simply requires participants to verbalize their thoughts or what they are thinking about while they are trying to solve a problem (Fonteyn et al., 1993). This allows the researcher to observe what the participant is trying to do and hear what the participant wants with respect to solving the problem. If the participant gets stuck while trying to solve the problem, the researcher is able to clarify the situation. This process was used throughout the workshops and again at the presentation stage of each event to capture the discussions of the participants. The data was noted down, typed up and used as the bases for the thematic analysis (Appendices 13, 16).

The 'Think Aloud' procedure has been used to investigate manual-handling tasks in warehouse workers (Ryan & Haslegrave, 2007). In healthcare contexts, it is being used increasingly to investigate problems like medical decision-making (e.g. Offredy & Meerabeau, 2005), and care planning (e.g. Funkesson et al., 2007), and to develop and assess clinical reasoning skills (e.g. Banning, 2008). In fact, Banning (2008) argued that the 'Think Aloud' procedure is appropriate for use in small groups to study the development of clinical reasoning. Hignett and Crompton (2007) used a technique-training approach to investigate patient handling by nurses. Their approach was consistent with the 'Think Aloud' procedure as they required participants to verbalize their thoughts while performing a simulated

patient-handling task, and then take part in a semi-structured interview which further investigated participants' decision-making processes. On this basis, the 'Think Aloud' procedure, and semi-structured interviews were chosen as the research methods used to investigate the research questions on MHRA, Community Setting and Clinical Reasoning. The specific procedures for these methods are described in the following chapters.

It was suggested by Olson et al., (1984), that the Think Aloud technique is beneficial as a research tool when it accounts for and assesses the working memory of a participant as well as being used to understand how individual participants undertake tasks with which they are presented in the research study. Where there is a participant with an unfinished working thought process, a partial view of a situation under study, then for Ericsson and Simon (1980) the use of spoken descriptions as denoted by think aloud data can be used as "thoroughly reliable" outcomes relating to the thought processes. Charters (2003), p.68, notes that in the formative stages of a research plan which is considering the use of Think Aloud methods, it is important to think through the style and complexity of the research subject, the level of involvement of the researcher and the support required from other facts to verify implications and deductions from think aloud protocols and the mode of enquiry. The cognitive skills of participants and their level of knowledge are important factors when thinking about the tasks that they will undertake in the study (Ericsson & Simon, 1980), p215. In a Think Aloud exercise the researcher is looking for an assignment to be undertaken which reflects a balance between participants providing an "automatic response" and the task being "cognitively overwhelming". The correct pitch is "a language based activity at an intermediate level of difficulty for the target group" Charters (2003), p 69/70. Avoiding overload of memory can be achieved by breaking tasks down into smaller units which are easier to describe and articulate. Providing written texts as a reference point releases working memory so that a more in depth analysis and thought process can be used by the participants. Taking tasks to different achievement levels and challenging the participants to think more laterally and perhaps academically is a benefit to the think aloud replies, Johnson, (1992).

6.7.3.1 Prompting in the 'Think Aloud' Procedure

At a Think Aloud session it is hoped that the participants will be natural and unprompted in their responses. It is important for the conversation and presentation to flow naturally. In a mixed group study there is likely to be some people who due to a lack of confidence, insufficient knowledge or minimal training may not be spontaneous in their thoughts. It is suggested in some studies that there was the risk in such situations of the researcher prompting or steering the discussion. Olson et al (1984). Furthermore, the repetition of a task may lead to 'automaticity rather than a natural thought process response.' Ericsson and Simon (1980), p215. It is important that any inference is related, literal and is as close to what was actually said at the presentation session. Rankin (1988). To address some of these concerns about researcher interference and possible biases, certain studies have suggested ways to allow for valuable think aloud approaches. It is possible to explain the thinking behind think aloud before doing the task based activities (Gibson, 1997). The researcher saying nothing or the absolute minimum may be more defensible in case of bias (Pressey & Afflerbach, 1995). A pause or a quiet moment may reveal more about the participants thought process than just talking out loud to answer a question or report on an observation. Any missing data can be potentially captured by other data collection activities. Sugirin (1999), p2, maintains that to ensure that the think aloud data is as accurate as possible then a "reliability check" to provide "triangulation" should be undertaken.

6.7.3.2 Triangulation and the 'Think Aloud' Procedure

Ericsson and Simon (1980) note that it is not uncommon for other sources of data gathering to be used to support the think aloud process. They discuss the fact that participants may not always be able to work from their memory and as such may miss out thought processes which are not retained in the working memory to be effectively stated at a think aloud discussion session. There is the possibility that there will be unpredictable quality and quantity of detail verbalized by the participants. In an attempt to deal with these shortcomings Charters (2003) suggests that some retrospective questioning can take place as an additional source of data collection (See chapter 8 on Participant Validation Interviews). There is a risk of bias and perhaps there may be issues around the retrieval of long term memory but

Nunan (1992) counters this by suggesting that the rich data from current memory is the more dominant factor in the analysis. Qi (1998) highlights that follow up interviews will help to validate what has been spoken about at the think aloud session. Gibson (1997) noted that there should be a minimal time lapse between the think aloud session and the follow up interviews. The use of photographs and questionnaires as well as observation for verbal and non-verbal communication are all possible supplementary strategies for gathering data. (Akyel and Kamisli 1996; Sugirin 1999).

6.7.3.3 Reciprocity and the 'Think Aloud' Procedure

There are a range of ways in which participants in think aloud sessions provide data/information/responses. There is the potential to give their thoughts at the time of the discussion or they may follow up at a later stage with the researcher on his/her views and interpretations of the formal sessions. As volunteers the participant has a key cooperative role in the think aloud process. Reciprocity is when the researcher and the participants interact to ensure that there is some 'come and go' in the data gathering process using the think aloud method. This can be demonstrated when there was discussion around the use or not of items of equipment to assist Jack when standing. Some HCPs would want to spend the time encouraging him to stand whilst others recognised the importance of this but realistically saw carers using the equipment as the safest way of moving him. This important independence point for Jack needed to be talked through by the professionals and the researcher to allow for all points to be raised but a compromise reached on the identification of the key hazards and the evaluation of the associated risks. Harrison et al (2001) considers that by discussing notes, interviews and early analyses with participants then the researcher can ask the opinion of the participants on the shared details and therefore encourage a sense of trustworthiness. The benefits from reciprocity is that the participant can be involved in the research, the researcher gains valuable data around a research question and that others may benefit from the work undertaken (Charters, 2003).

Charters (2003), p.77 considers think aloud research through the case study method, stating it "is more useful, more appropriate, more workable than other

research designs for a given situation…..a pragmatic conception of truth undergirds this approach." There is the potential for the whole detail around a situation in a case study to be examined, understood, described and explained by the researcher or the participants. The workshop data on Jack and Jenny represented this approach. It is possible to consider a range of evidence and to include the discussions at interviews as well as drawing on observations. Merriam (1988) p. 9, notes that the "complexities of a situation" can be captured. The use of quotes, comments and material content of the sessions provides the researcher with data that has been described naturally by the participants and is without the need for it to be tested against a quantitative hypothesis. A case study approach allows for the description of a subject/ client. A narrative, full of detail and relevant facts about and around the person under discussion can be explained. Similarities to other situations/cases are possible however, there needs to be recognition that everyone is an individual and not all people will respond to situations the same way. There is the possibility of looking for themes and common ground in the discussions around case studies. In support of and to assist in developing this method, the use of Personas in qualitative research offers an approach that considers an "archetypal patient" based on demographic data, collected at interviews or by questionnaire which can be used to represent a collection of real people.

6.7.4 Thematic Analysis and Coding of the 'Think Aloud' data
Creswell (2009),p183, states that in qualitative research "the process of data analysis involves making sense out of text and image data. It involves preparing the data for analysis, conducting different analyses, moving deeper and deeper into understanding the data...representing the data, and making an interpretation of the larger meaning of the data." Creswell (2009) outlines six steps which researchers should follow to look at qualitative data, these are 1) organise and prepare the data, 2) read through all the data to gain a general sense of the information, 3) coding, 4) generate a number of themes from the coding as well as a description of the setting/people 5) convey findings, typically through a narrative passage and 6) making an interpretation of meaning of the data. I followed these steps in analysing the workshop data.

The first step was to organise and prepare the data for analysis. At the end of each

workshop the groups handed in their worksheets to me. Examples of worksheets are given in Appendices 12, 14, and 15. The group name (e.g. Aberdeen1), whether that was a Jack or Jenny group, and the number of group participants was noted on the worksheets. I added my notes on each group from the think aloud sessions and feedback presentations to each group's worksheets. Examples of these notes are given in Appendices 13 and 16.

The second stage of the analysis was familiarisation with the data. To do this, I read through the worksheets and notes for each group. I was looking for the common phrases and words in the documents and noted down examples where the same details emerged in the different scripts. From the think aloud presentations I wrote in red font the risks attached to the hazards that the HCPs had identified. I had an initial read through the scripts and then in readings two and three established that there were key areas that were consistently being referred to by all the groups. Other words and phrases were mentioned by some groups and not by others and although relevant were not included as they didn't appear in all the cases. An example would be *rehousing* of Jenny or undertaking a *rehabilitation programme with Jack.* Further research could consider some of the areas not covered by this analysis of data.

The third step was to code the data. Saldana (2009) argued that a code is the label given to particular pieces of data that contribute to a theme. He suggests the following coding considerations:

- What are people doing? What are they trying to accomplish?
- How exactly do they do this? What specific means or strategies are used?
- How do members talk about and understand what is going on?
- What assumptions are they making?
- What do I see going on here? What did I learn from note taking?
- Why did I include them?

Cresswell (2009) highlighted three key determinants of coding: codes created inductively from the data, codes which can be prearranged which is effectively matching the workshop presentations to the codes and thirdly the mixing of prearranged and emerging codes from the workshops. The codes were inductive and corresponded to the hazards identified by the pilot group for Jack (see Table 6.1) and Jenny (see Table 6.2).

The fourth step was to generate a number of themes from the coding. It is these themes which tend to form headings or sections within the research findings (Creswell, 2009). Guest (2012) maintains that thematic analysis is a key method used in the analysis of qualitative data. Braun and Clarke (2006) stress its effectiveness in investigating, scrutinizing and recording patterns/themes found in data. Daly et al (1997) suggest that themes are relationships/patterns that appear across data sets and bring a significance to the narrative around a phenomenon which can be linked to a particular research question/s. Boyatzis (1998) Roulston (2001) suggest that thematic analysis is a recognized qualitative analytical method. Similarly, Braun & Clarke (2006) p77, believe that thematic analysis allows for a flexible approach to researching a topic where it allows theoretical freedom and is able to offer a "rich and detailed, yet complex account of data." Table 7.3 shows how the codes (from both Jack and Jenny cases) were used to generate themes. Through an iterative process, the themes that emerged were: medical condition, equipment, home environment, complexity, and community.

Steps 5 (to convey findings, typically through a narrative passage) and 6 (to make an interpretation of meaning of the data) were combined as the themes represented the main hazards that should be considered when conducting a MHRA in the community setting. The associated narrative is given in sections 7.4.1 –7.4.5.

6.7.5 Reliability and Validity of Workshop Data
Yin (2009) raises concerns around case studies which look at the level of rigour, generalizability of cases and points to the fact that case studies can be time consuming. He argues that there are several factors which need to be considered

in the design of case study research. These factors are Construct Validity (defining the constructs being investigated), Internal Validity (for explanatory or causal case studies, where there is an attempt to show that event x led to outcome y), External Validity (whether findings can be generalized beyond the study itself), and Reliability (where the findings of one researcher can be replicated by another researcher doing the same case study). As this study is exploratory, the tests of construct validity, external validity are considered in more detail below.

Gray (2007) suggests that for construct validity, multiple sources of data can be collected to show that there are different ways to consider the research enquiry. If possible a sequence of supporting information should be established throughout the data collection period. The use of the think aloud process and interviews ensures validity as the many different sources of information and evidence produced by the different workshops adhering to the same programme of events supports the view that "multiple measures of the same construct" have been followed, Gray (2007), p252. I also conducted semi structured interviews after the workshops and later participant validation interviews were carried out. External validity considers if it is possible to generalize the findings outside the actual study. There is the benefit that the research will reach beyond the parameters of the study to show there is a wider application of the findings and potentially the outcomes. This research will consider the Personas of the cases and suggest the use of the cases in the library CBR cycle. Yin (2009) argues that for reliability, if another researcher were to follow the same procedures that were described by the initial researcher and therefore conducted the same case study that the later researcher would come to the same conclusions as the first. Yin (2009) suggests the following two tactics for reliability: 1) use case study protocol and 2) develop case study database and by doing so producing guidelines for doing the same case study, with the same procedures and hence arriving at the same conclusions.

6.8 Semi-Structured Interviews

Semi-structured interviews were conducted with a sample of workshop participants to investigate the role of experience in the development of clinical reasoning in

MHRAs. The remainder of this section gives details and justifications for the semi-structured interviews.

Arksey and Knight (1999) cited in Gray (2009) p370, "Interviewing is a powerful way of helping people to make explicit things that have hitherto been implicit- to articulate their tacit perceptions, feelings and understanding." Berg (1989) p67-68, suggests that an interview is a "conversation with a purpose." Gray (2007) considers five categories of interviews, Structured, semi structured, non-directive, focused, informal conversational. Bryman and Bell (2007) discuss the unstructured and semi structured approach to interviewing. In this research semi structured interviews were chosen as they are used widely in qualitative analysis where a number of areas of research were identified for examination and analysis based on the Manual Handling literature and the data obtained from the think- aloud sessions. Dunn (2005) highlights the strengths of semi structured interviews:

- They fill a gap in knowledge that other methods cannot bridge effectively
- Investigate complex behaviours and motivations
- Collect a diversity of meaning, opinion and experiences
- Shows respect for and empowers the people who provide the data; it values the points of views of non-researchers

Although the questions were systematically organized into sections it was noted that the order of the questions could be changed depending on the course of the interviews and that additional interview questions arising from the discussions could be asked (Gray 2007). The interview proceedings were recorded and additional notes were taken as support for the data that was being collected. Bryman and Bell (2007) discuss the flexibility of this interview approach and note that the questions asked will be similar in each interview that is conducted. King cited in Cassell and Symon (2012).The use of the informal conversational interview is looking for the open ended creation of questions throughout the course of the interview process. There is great flexibility around this technique although it can be open to interviewer bias in terms of direction and content of the interview.

There is a lot of data generated in this interview approach and this can lead to difficulties when analyzing the range of diverse questions that may have been put to different people.

6.8.1 Participants for the Interviews

A sample of 21 workshop participants took part in semi-structured interviews at dates after their workshop. Given time restrictions regarding access to participants that were imposed by the participating organisations, interviews were conducted in groups of two or three participants with similar job roles. The facilitators from each area (Aberdeen or Edinburgh) selected participants and assigned them to an interview group based on their job role: mixed work experience, those with further experience in policy and procedure, and those who were at a senior grade / had team management experience. This approach was deemed appropriate given the lack of an Agenda for Change graded competency system related to participants' MRHA skills. It also accounts for some participants having many years of work experience but relatively little experience with clients requiring moving and handling. Each group comprised at least one participant from a 'Jack' workshop group and at least one participant from a 'Jenny' workshop group, and the facilitators indicated that the interview groups were a representative sample of the job roles in their organisations. See Table 6.2 for biographical profiles of interview participants.

Table 6.2: Biographical Profiles of the 21 Interview Participants

Employer	Job Title	Completed a Professional Qualification	Completed a Moving & Handling Course?	Years of Work Experience	Facilitator-assigned Interview Group
CEC	OT	Yes	Yes	10	Mixed Exp.
CEC	OT	Yes	Yes	18	Mixed Exp.
CEC	OT	Yes	Yes	1	Mixed Exp.
CEC	OT	Yes	Yes	27	Mixed Exp.
CEC	OT	Yes	Yes	11	Senior
CEC	OT	Yes	Yes	13	Senior
CEC	OT	Yes	Yes	12	Senior
CEC	OT	Yes	Yes	30	Senior
CEC	OT	Yes	Yes	12	Senior
CEC	OT	Yes	Yes	7	P&P role
CEC	OT	Yes	Yes	12	P&P role
BAC	OT	Yes	Yes	7	Mixed Exp.
BAC	OT	Yes	Yes	27	Mixed Exp.
BAC	OT	Yes	Yes	4	Mixed Exp.
BAC	OT	Yes	Yes	33	Senior
NHS	Nurse	Yes	Yes	31	Senior
NHS	Nurse	Yes	Yes	16	Senior
BAC	OT	Yes	Yes	13	P&P role
BAC	OT	Yes	Yes	6	P&P role
BAC	OT	Yes	Yes	4	P&P role
BAC	OT	Yes	Yes	1	P&P role

6.8.2 Developing the Interview Questions

Secor (2010) maintains that the researcher should conduct the interviews with a range of suitable questions. Berg (1989) contends that there are four sets of questions that are beneficial when undertaking qualitative research: 1) questions specific to the core question being researched, 2) extra questions should be considered which add to the discussion but also have an effect on focusing on the reliability of the responses from the participants, 3) the use of one off questions which are used to engage the participants are recommended as they can break up and space out the key questions, and 4) the use of questions to probe and examine the participants in more detail and to allow them to elaborate are the important to the flow of semi structured interviews. Berg (1989) highlights that the use of 'how come' are better ways of phrasing questions rather than just 'why'. Avoiding confrontational questions is important as they tend to offset the participants and lead to a lack of flow of the interview. The use of single questions is more appropriate than phrasing two or more questions at the same time on the question and subject under investigation. Long and complexed phrased questions can lead to confusing and ambiguous answers. These guidelines informed the development of interview schedules (See Appendices 17, 18, and 19 respectively) for the three participant groups (participants with mixed experience, participants with experience in a policy / procedure role, and participants in a senior grade / management role). The core questions about the themes are listed in Table 6.3.

Table 6.3: Core interview questions

Theme	Question
Medical Condition	-Tell me about the medical problems of your clients. -Tell me how a client's medical condition fits into a MHRA. -Do many of your clients present similarly to Jack or Jenny?
Equipment	-Tell me how equipment fits into a MHRA. -Tell me about training with respect to equipment. -Tell me about if / how equipment that is prescribed gets into the right place and is used correctly.
Home Environment	-Tell me about how the client's home fits into a MHRA. -Do you perceive MHRA to be quantitative (number of risk assessments carried out, number of hoists and slings provided) or qualitative (view of the person on MH, the involvement of the family and the environment / dynamic of the home)?
Complexity	-Tell me what you understand by the term 'client with complex needs'. -Tell me about the complex needs of your clients. -Tell me how complex needs fits into a MHRA.
Community	-Tell me how MRHA fits into community care. -What role does the acute sector play in advising, informing or influencing the way in which you in the community deal with MH and the MHRA?

	-What liaison exists between the acute and the community when a client is being discharged home from the hospitals in your area?
	-Tell me how you would carry out a MHRA in the community for a complex case.

6.8.3 Procedure for Interviews

Interviews were conducted in Aberdeen (offices of the Community Equipment Service, Whytemyres) and Edinburgh (City of Edinburgh Council Training Suite, Holyrood Court). The interviews were conducted in groups of two to three participants in similar job roles due to time restrictions imposed by the participating organisations. Interviews lasted up to two hours / group. The interviews were conducted in accordance with best practice (Leech 2002) such that they included an explanation of the research and questions based on the workshop activity. They were audio-recorded but I also made supporting notes during each interview. Questions were asked in a clear, concise, audible and ordered manner. I pointed out that questions could be repeated and that at any time clarification could be sought about the meaning and structure of a question. The questions were brief and supplementary questions could be asked to ensure continuity about a specific subject. I encouraged participants to be natural in their answers and to allow the topics to flow. I checked with participants that they were attending the interviews on a voluntary basis. I informed them that although the interviews were being audio-recorded and I was taking notes, the data would be anonymous in that I would not attribute comments to any participants or name them, and that the audio files would be deleted after analysis. The interviews were semi-structured in that I asked all 'work experience' groups the same core questions but followed up with different questions depending on their responses. I began the interviews by asking participants background questions about their education / training, work experience, and their knowledge about manual handling legislation, policy and procedures, and what they know about clinical reasoning. Then, I reminded participants of the 'Jack' and 'Jenny' cases from the workshops and told them to think about their reasoning in those cases and their other experiences of MHRAs in answering the remaining questions (which were based around the five themes which emerged from the workshops: medical condition, equipment, home environment, complexity, and community).

6.8.4 Thematic Analysis and Coding of Interview data

As mentioned above, Creswell (2009) outlines six steps which researchers should follow for thematic analysis of qualitative data: 1) organise and prepare the data, 2) read through all the data to gain a general sense of the information, 3) coding, 4) generate a number of themes from the coding as well as a description of the setting/people, 5) convey findings, typically through a narrative passage, and 6) making an interpretation of meaning of the data. I followed these steps in analysing the data from the semi-structured interviews.

The first step was to organise and prepare the data for analysis. As stated, the interviews were both audio-recorded and detailed notes were taken during the interview. In addition to this, as soon as possible after the interview, further details were added to these noted with other details, thoughts and anything that could be recalled from the interview. I transcribed the audio-recordings and notes for each interview into a document and pseudo-anonymised it for the location (Edinburgh or Aberdeen), and the nature of the group's work experience. In accordance with the proposed model, I then organised the data by comments made about Risk Perception, Risk Decision-Making, and Risk Communication respectively for each of the five hazards identified from the workshops (i.e. medical condition, home environment, equipment, complexity, and community) noting whether the comment was made by a Jack or Jenny participant. The second step was to read through all the data to gain a general sense of the information. I read over the transcripts again with respect to how the data had been organised by comments about Risk Perception, Risk Decision-Making, and Risk Communication. The third step was to code the data. I used Benner's (2005) model of developmental stages in clinical reasoning (Novice to Expert) to code the interview data. The codes were inductive, and Table 5.4 lists the criteria used to code data based on descriptors from Benner (2005).

Table 6.4: Coding Criteria based on Descriptors from Benner (2005)

Stage	Descriptor
Novice	-Taught general rules to help perform tasks -Rule-governed behaviour is limited and inflexible -"Tell me what I need to do and I'll do it"
Advanced Beginner	-Pays close attention to the practice of colleagues -Experiences the situation as a myriad of competing tasks -May experience worry and anxiety over not knowing
Competent	-Able to prioritize information based on past experiences -Aware of long term goals in patient care and needs
Proficient	-Perceives and understands situations as whole parts -More holistic understanding improves decision making -Continues to build experience but knows what to do
Expert	-No longer relies on an analytical principle (rule, guideline, maxim) to link an understanding of a clinical situation to a relevant action -Level of accuracy, an intuitive understanding of each situation and has the ability to get to the point of the whole issue directly -Fluidity and flexibility around the understanding of the total situation that is presenting by the client -Can be analytical when required if no experience to draw on

I coded the interview data blindly in that I was not explicitly aware of which comments were from which location / work experience group. While contextual data had been removed from the documents used for coding, I had annotated the data to keep track of which comments were made by a Jack / Jenny participant. It is important to recognise that as the researcher, I was not completely 'blinded' though. Before collecting the data, I had read the literature on MHRA and clinical reasoning extensively, and would have formed expectations which may have inadvertently affected the dynamics of how I conducted the interviews with the different 'work experience' groups.

As per Gray (2010), I used the following checklist to minimise my bias as researcher:

- *Departures from the interviewing instructions.* I kept to the interview schedule, notes and timetable
- *Poor maintenance of rapport with the respondent*(s). I worked to the timetable set out before the interviews and referred to the respondents when I was asking questions, noting answers and following up on any points that were unclear. I repeated any questions when a respondent requested this or needed a further explanation about a question.
- *Careless prompting.* I replied to comments made about the questions but didn't rush, prompt or engage in conversation with the respondents so that the answers they gave were not influenced by anything that I had said.
- *Biased recording of verbatim answers*. I recorded what was said. I also took handwritten notes to verify points and to allow me to relate to key issues that were raised.

The fourth step was to generate a number of themes from the coding. Tables 7.6, 7.9, and 7.12 show how the coded interview data on risk perception, risk decision-making, and risk communication, respectively, were used to generate themes. Through an iterative process, three themes emerged: Novice, Competent, and Expert. I then also checked the pseudo-anonymised data for differences between the Edinburgh and Aberdeen groups. The data from these groups were very similar, and it was found that comments from the Mixed Work Experience groups mapped onto Novice, the Policy and Procedure groups mapped onto Competent, and the Senior / Management group mapped onto Expert. The fifth step was to convey findings which is usually done through a narrative passage, but in this case I chose to present the findings through summary tables. The findings for Risk Perception (Tables 7.4 and 7.5), Risk Decision-Making (Tables 7.7 and 7.8), and Risk Communication (Tables 7.10 and 7.11) are given respectively for Jack and Jenny participants. I chose to present the data this way in order to demonstrate how the data were coded to generate the themes (Tables 7.3) in a traceable manner. The sixth step was to make an interpretation of meaning of the data. The findings suggest that for MHRA in community settings, there are three stages of development in clinical reasoning: Novice, Competent, and Expert.

6.9 Reflective Practice

The process of reflective practice Schon (1983), pp102-104 is "the capacity to reflect on action so as to engage in a process of continuous learning." Importantly Loughram (2002) Cochran-Smith et al (1999) believe that experience on its own does not inevitably point towards learning. It is about reflecting on experience that is important in practice based professional learning. This concepts relates to learning from professional experience as opposed to recognised learning or the transfer of knowledge. IOSH (2010), (2016) consider continual professional development as an important source of reflective practice. Patterson et al (2013) indicates that although past events are important in this learning process it is important that experience, action, outcomes, responses are used as an add on to existing knowledge so that development to a higher level of performance and understanding can be achieved. RCN (2015) NMC (2016) promote reflective practice as a section of the revalidation of process and requirements. The Plan, Do, Reflect and Review as a cyclical process is an important concept when undertaking this type of semi structured approach to direct learning. (Schon,1983; Boud et al.,1985; Larrivee, 2000).

Figure 6.16:   Plan, Do, Reflect, Review. (Source IOSH 2010)

Within healthcare, teaching, occupational health and safety and other professions, the process of reflective practice is applicable where lifelong learning is a key objective to maintaining and improving skills. It recognizes that the professional workplace is evolving and changing, knowledge is developing and growing as new skills, techniques and medical advances in the acute and community settings are discovered. The provision of a programme of reflective practice is acknowledged in nursing as skills and being challenged in this complex and evolving area of healthcare (Hendricks et al., 1996; RCN, 2015; NMC, 2016). The reflective practice of the participants as well as my own reflective practitioner approach to the research can be informed and guided by the work of Davies (2012) who considers the benefits and limitations of this subject from a primary care/community perspective.

6.9.1 Increased learning from an experience or situation

This research thesis developed a workshop programme that had not been used before in the working experience of any of the participants. Compiling the programme and developing the case studies and the workshops was a personal learning experience which also translated to the professionals in that they too learnt from participating in the workshops. They did compare it favourably to their existing training programme when evaluating the coursework and the workshop activities (Appendix 21-23). Bryman and Bell (2007) encourage the use of quotes as it emphasizes reflexivity and awareness between the researcher and 'giving voice' to participants in a way that is not mediated by his (or her) own interpretations. It was noted by most of the participants that they had not undertaken this type of case study training in their career. They were learning about risk assessment and the use of their clinical reasoning in this process whilst providing advice, support and a duty of care to their clients in the community presenting with complex medical needs. As the researcher I was developing ideas that I has considered as part of a programme of life- long learning whilst working in the assistive technology and occupational safety and health industry. I was able to reflect on comments made at the sessions about the prevalence of complex clinical conditions in the community, the effective and safe use of the equipment, the training programme being presented and the way in which this concept could be used in the wider education

and training of professionals, carers and family members supporting a person with a persona that matched the case studies used in this research.

6.9.2 Promotion of deep learning

The participants were interested in the use of their clinical reasoning combined with the five steps of risk assessment. From their think aloud comments and their views highlighted in their evaluations it was apparent that they understood the process as well as the practical application of the risk perception, decision making and communication. The majority of the participants had not examined MHRA in this depth as part of their previous or existing education and training programmes.

6.9.3 Identification of personal and professional strengths and areas for improvement

The think aloud sessions highlighted to individual participants what they knew about the clients and their presenting conditions and the hazards and risks associated with the MHRA. By explaining, discussing and interacting with their colleagues the HCPs were able to see where their strengths and weaknesses were in relation to the knowledge of their colleagues.

6.9.4 Encouragement of self-motivation and self-directed learning

Areas for improvement related to the possible need for additional education and training or by taking an idea or concept discussed and practising it with the next complex client on their case load. My intention is to publish the model, the level descriptors and to offer a practical set of guidelines on four personas (Jack, Jenny, Janice, and David) which HCPs and others can use in their assessment of complex moving and handling cases in the community.

6.9.5 Acquisition of new knowledge and skills

For most of the participants the hazard identification and risk evaluation processes were the key outcomes from the workshops. Participating in a think aloud session when presenting these two key areas allowed the HCPs to show how their views had been developed in a structured way and therefore provided a new set of skills around risk assessment which they could use when assessing their existing or new clients in the community.

6.9.6 Further understanding of own belief, attitudes and values

The think aloud sessions allowed the HCPs the time to explain their views on risk assessment. Risk Perception of the individual HCP was under discussion so participants were able to state their perceived hazards and risks and then have the opportunity to express these views as individuals or as team members considering one of the case studies. Attitudes towards risk are subjective and the opportunity was given at the think aloud sessions for individuals and groups to express their own views and beliefs on what constitutes a hazard with a low, medium or high risk. It encouraged debate and conversation out of which it was hoped that everyone participating was able to take some new ideas or adopt/adapt their existing views on the subject.

6.9.7 Could act as a source of feedback

All the data gathered was written down, recorded or photographed to provide a mixed and inter related set of results which were organised and analysed to produce outcomes. The completed thesis will act as source of feedback to the participants and the organisations for which they work.

6.9.8 Possible improvements of personal and clinical confidence

It is hoped that by taking an active part in the research workshops, interviews and the post validation exercise that the HCPs will be able to reflect on their personal involvement in the project and as such they can apply the experience to their personal and clinical practice. It would appear from comments made at the validations sessions that there is evidence of the confident use of the narrative and photographs to explain their clinical reasoning in relation to MHRA and the provision of AT equipment to their clients living and being cared for in the community.

As a balance to these benefits, Davies (2012) considers some limitations to reflective practice as follows.

6.9.9 Not all practitioners may understand the reflective process

There was little if any evidence of practitioners who attended not reflectively considering the benefits or otherwise of the workshops and interviews. Perhaps there were clinicians who didn't participate from the different organisations because they either didn't undertake MHRA in their professional practice or because their professional development was in a different area of healthcare.

6.9.10 May feel uncomfortable challenging and evaluating own practice

Whereas some participants worked in offices where they could seek guidance on MH issues/problems/challenges from other colleagues, it was noted that other offices within the same local authority area did not have this open approach. This was due to staff posts being unfilled and being managed by professionals not in their specific area of work. Not knowing how to challenge your own work and reflect on it when you are not encouraged to do so, it is a complicated situation to self-manage when you recognize yourself as a novice.

6.10 Participant Validation Interviews

Respondent validation is a procedure that is used by researchers to enhance the accuracy, credibility and transferability of qualitative research (Cresswell, 1994). Participant involvement in checking data can be carried out during the interview process by the researcher coming back to check on a fact or detail with the interviewee. It is also acceptable to do this check at the end of the study or at a time set aside after the interviews have been completed. The purpose of respondent validation is for participants to comment, analyse, and criticise the information that has been given to them based on the researcher's interpretation of the data. It is usual for the participants to agree with the findings based on their views, feelings, and experiences but it gives them an opportunity to reflect on whether they disagree or have an alternative opinion to how the researcher has interpreted the findings. There are some advantages and disadvantages to participant validation. Some of the advantages are that it allows the researcher to investigate and understand the participant's views through his/her actions. It helps to focus and bring together preliminary findings and it reduces the risk of participants commenting at a later

stage about any investigative errors or omissions in the transcriptions (Cohen & Crabtree, 2006). Some disadvantages can be the amount of time needed by participants to discuss the research, and that participants may tell the researcher what they want to hear and that different participants may offer different opinions on the same data set.

6.10.1 Procedure for Participant Validation Interviews

In total 13 participants who had taken part in the workshops and semi-structured interviews participated in Participant Validation Interviews. (Please refer to Chapter 8). I conducted two PVIs with CEC participants on November 5, 2015. I conducted a group interview with five Community Occupational Therapists (they included participants with mixed work experience and those in a policy / procedure role and represented both Jack and Jenny workshop groups). I then conducted a one-to-one interview with an NHS senior / team manager who had acted as a workshop facilitator. I conducted two PVIs with BAC / NHS Grampian participants on November 17, 2015. I conducted a group interview with five Community Occupational Therapists and one nurse (they included participants with mixed work experience and those in a policy / procedure role and represented both Jack and Jenny workshop groups). I then conducted a one-to-one interview with a COT senior / team manager who had acted as a workshop facilitator.

The two team managers selected participants from their organisations to take part in the PVIs based on availability. Due to restrictions in organisational access, it was not possible to conduct separate PVIs with participants with mixed work experience and those working in a policy / procedure role, or indeed to conduct one-to-one interviews with them. On average, the PVIs lasted one hour. At the PVIs, participants were presented with the model (Figure 10.1) and level descriptors (Tables 7.6, 7.9 and 7.12). I explained that the model suggests that clinical reasoning in MHRAs in community settings is a cyclical process of risk perception, risk decision-making, and risk communication and that clinical reasoning develops from novice to competent to expert as a function of experience. I asked participants to comment on their understanding of risk assessment and clinical reasoning. I then asked them to consider the model with respect to integrating the steps / processes in a risk

assessment (i.e. risk perception, risk decision-making, and risk communication) with the steps / cycle of clinical reasoning.

I then reminded participants of the Jack and Jenny client cases and presented them with the narratives for those cases (Figures 6.8 and 6.9) and some photographs from the workshops. I pointed out the five hazards / risks identified by the model (medical condition, equipment, home environment, complexity, and community care). I asked them to consider whether the five hazards / risks were accurate by considering how the example data (Table 7.3) were coded, relevant and reflect their experience of client cases.

Lastly, I asked participants to comment on how they think clinical reasoning develops. I referred to Benner's Stages of Development in Clinical Reasoning, and asked them to review the Level Descriptors (Tables 7.3, 7.6, and 7.9). Each participant was then asked whether they could classify himself/herself as Novice, Competent, or Expert. I asked them to consider whether the Level Descriptors were accurate by considering how the example quotes were coded, relevant and reflect their experience.

6.11 Ethics

Once the workshop materials had been developed, I applied formally to the Department of HRM's Ethics Committee for permission to proceed with my research. Once I had gained permission, I informed senior managers of participating organisations of the permission received. Research participants were informed about the purpose of the research and their rights if they chose to participate when they were being recruited, and at the start of the workshops and interviews. The main ethical issues in the research had to do with confidentiality (e.g. Allmark et al., 2009). In order to ensure client confidentiality, I developed the 'Jack' and 'Jenny' cases, which although based on actual clients, they did not include identifying information. Participants were informed that their workshop and interview data would be confidential. They agreed to digital photographs being taken at the workshops, in part so that they could use them in their workshop presentations, and I

informed them that I would seek their written permission to use any photographs in my dissertation.

6.12 Chapter Summary

The methodology and the methods used to examine the research questions on MHRA, Community Setting and Clinical Reasoning has been explained in this chapter. The phenomenological philosophy underpinning this thesis suggests that reality is not objective and that the meaning of events and situations is constructed and interpreted by people through their thought processes and interactions.

Consistent with this phenomenological approach and the psychometric paradigm, this thesis proceeded from the assumption that risk assessment is a subjective process. This chapter, outlined in the research plan, has made a case for proceeding with a qualitative research design using thematic analysis. The initial research questions to develop the programme of investigating the role of clinical reasoning in MHRA in the community setting was advanced in conjunction with senior HCPs. It was then piloted with a group of experienced professionals with a knowledge and interest in moving and handling clients in their own community setting. From the pilot team two out of four potential clinical case studies / personas were chosen for use in 'think aloud' workshops to investigate to what extent the clinical reasoning of the HCP is relevant when conducting a MHRA in community settings. The reasoning around the use of Personas was widely reported on to explain the effectiveness of this method of research. Limitations in their use were presented to balance the argument. The analysis and coding of think aloud data, discussion on reliability and validity of workshop data were presented. This was followed up with an explanation in the use of semi-structured interviews using a selection of participating HCPs. The intention was to offer a further insight into the investigation on the role of experience in clinical reasoning in MHRAs when undertaken by HCPs in the community. Further thematic analysis and coding of this interview data was carried out. This was to establish from the findings and the analysis that for MHRA in community settings it is suggested that there are three stages of development in clinical reasoning: Novice, Competent and Expert. The discussion extended to consider and explain as a process of continuous learning the importance for the HCPs of reflective practice. It

was suggested that this reflection related to the client assessment and the clinical reasoning adopted in the assessment, the outcomes and recommendations and the monitoring and review of events in the person's home. (Plan, Do, Reflect, Review).To enhance the accuracy, credibility and transferability of this qualitative research (Cresswell, 1994) participant validation interviews were conducted to verify the research findings and the proposed model which considered the role of MHRA, Community Setting and Clinical Reasoning when dealing with a client presenting with complex clinical needs who is cared for at home.

Chapter 7: Findings from Pilot Group, Participant Workshops, Semi-structured Interviews

7 .1 Introduction

To investigate the relevance of clinical reasoning in a MHRA the research turned to HCPs to assist in qualitative analysis of how a moving and handling risk assessment is undertaken in the community. The case studies were informed by a pilot group of senior practitioner healthcare professionals. The agreed contents of the case studies identified by this pilot group were then used in a workshop setting to allow the participants to merge their clinical, educational and identified training skills with the practical application of AT equipment in designated mock rooms. It was hoped to establish the extent and in what ways the HCPs used their clinical reasoning to assess, decide, communicate their professional views about the presenting facts in the case studies. The workshops focussed on risk assessment, clinical reasoning relating to the needs of clients and the use of AT equipment to potentially meet assessed outcomes. It was anticipated that the relevance of the assessments could be discussed, noted and used to support, inform and ultimately answer the research questions on MHRA, Community Setting and Clinical Reasoning. It is argued that HCPs routinely apply their clinical reasoning to inform their practice. The use of clinical reasoning in this specific study was the key factor in using this qualitative design to further develop the research model.

This chapter presents the key findings from the pilot group, workshops and the semi structured interviews. The pilot group identified hazards for the Jack and Jenny case studies which were compared to those identified by workshop participants. The worksheets and comments made by the Jack and Jenny groups were analysed whilst they were 'thinking aloud', presenting their MHRAs and discussing common issues during the concluding discussions at each workshop. Based on that analysis, five hazards / risks that should be considered when conducting a MRHA in community settings were analysed. These five hazards / risks were incorporated into the proposed model.

7.2 Findings from Pilot Group

This section presents the findings from the Pilot Group. Refer to Section 6.4 for details about the pilot group and how the Jack and Jenny case studies / personas were developed. (Appendices 1-11).

7.2.1 Jack

The pilot group commented that Jack's case represented a growing number of people with a progressive degenerative condition living at home. They believed it was likely that many of the workshop participants would have caseloads that included clients like Jack. The pilot group noted Jack's medical condition (MS) and discussed how other factors (e.g. verbal aggression) contributed to the complexity of the case. His transfers were highlighted as hazardous activities. The way in which he moved from chair to bed was an example of one transfer which was clearly inconsistent and was a cause of concern for the HCPs and the carers. His condition was noted as variable. He could potentially transfer without help, he may need equipment to stand him up or a hoist to raise him from the floor. They noted that there were ongoing moving and handling issues and concerns as well as care and social management affairs to address with Jack. He didn't like/want carers in his house. There were questions about the suitability of his housing as well as social issues about his behaviour/aggression and approach to people. For the pilot group, Jack's equipment needs required further assessment. What does he need? Is it a transfer board, a high seat chair set at the right height or a riser chair or is it a standing hoist used with a riser chair. What happens when he requires to be hoisted from the floor? These are all potential questions relating to his equipment needs which required to be discussed by the participants. It was noted that the HCPs would potentially approach Jack's situation from different perspectives depending on previous experience, knowledge of his condition and the type and use of his equipment.

The equipment that he had in his house could be set up in the workshops along with other items of equipment that may be helpful to Jack and his carers in the short and medium term.

Jack's case allowed for additional discussion around other factors. These include his coping mechanisms around his management of his condition. Spending time discussing his goals and objectives and what he wanted was identified as a potential way of highlighting condition led changes about his ability to assist, participate, undertake daily living activities in his own home environment. The pilot group generated a list of hazards in the Jack case study which they thought should be considered when conducting a MHRA. These hazards were:

1) Partially weight bearing

2) Extensor spasms

3) Fatigue and weakness

4) Poor memory

5) Current method of wheelchair transfer

6) Poor fine motor control

7) Minimal supervision and support when doing wheelchair transfers

8) Verbal aggression

9) Reluctance to accept care and support

10) Skin condition

7.2.2 Jenny

The pilot group noted that Jenny was typical of an obese client with comorbidities living at home who requires to be moved, handled and hoisted. They identified her weight as the major hazard. The pilot group focused their subsequent comments on structural weight/load bearing concerns around her house. The pilot group were aware that the accommodation for plus size people was not checked for structural load bearing capacities until there was a hoisting requirement identified. Invariably, this only related to the possible installation of ceiling track equipment. Routinely, it was hoped that the structural and environmental issues around a plus sized person would be discussed at the workshops.

This was an additional reason for choosing Jenny's case. It was noted that many local authority/health board areas do not have specific policies in place regarding the MHRA for plus size people. It was hoped that there would be relevant comments,

observations and different details from the participants at the workshops which would be useful in the analysis of the events. The use of equipment and the ergonomic issues associated with the management of plus size people at home was talked over at the pilot session. The practitioners noted that equipment has been used as part of the MHOR (1992) requirements to move and handle clients. Of significance are the issues around moving and handling plus size people in equipment (e.g. from bed to chair, and chair to chair manoeuvres). Jenny's case highlighted many issues. Her bed was not fit for purpose. The SWL was 20 stones and her weight was recorded as 29 stones. It was a single bed in a single sized room. Her weight and the type of equipment being used were incompatible. The ergonomic challenges of moving Jenny in bed as well as the twisting, turning and pulling of equipment was highlighted as a major concern by the pilot group. However, it was recognized that in the absence of clear instructions, there was the potential for the provision and use of incorrect equipment in her home. It was suggested by the pilot group that this scenario is probably a routine issue faced by HCPs working in the community where there is a reactive approach to a moving and handling issue and where any equipment is better than no equipment. It was felt that a case like Jenny's could be used by HCPs as a precedent to plan how they could deal in the future with a similar case.

The pilot group generated a list of hazards in the Jenny case study which they thought should be considered when conducting a MHRA. These hazards were:

1) Weight of client
2) Fatigue and weakness
3) Body Shape and size
4) Equipment
5) Equipment - Safe Working Load (SWL)
6) Limited ability to assist in transfers
7) Twisting/turning in moves
8) Environment
9) Attitude to carers
10) Skin integrity
11) Mood

7.3 Findings from Workshops – Jack groups

This section presents the findings from the Workshop Participants about the Jack case study. Refer to Section 6.7 for details about the Workshops and the 'Think Aloud' procedure. (Appendices 13,16).

7.3.1 Hazard Identification and Risk Ratings

Table 7.1 indicates the hazards identified by each participant group and the associated risk rating. As can be seen, the 10 hazards identified by the pilot group were identified across all participant groups, but no one participant group identified all 10 of those hazards. Some participant groups gave a risk rating of 'Medium-High' for some hazards when there was not an overall agreement in the group as to the level of risk. There is the likelihood that this variance is due to the individual participant's perception of risk. (Slovic 1987).

Table 7.1: Hazards Identified and Risk Ratings by Participant Groups for the 'Jack' case study

Group / Hazard	Partially weight bearing	Extensor spasms	Fatigue and weakness	Poor memory	Current method of wheelchair transfer	Poor fine motor control	Minimal supervision and support when doing wheelchair transfers	Verbal aggression	Reluctance to accept care and support	Skin condition
Aberdeen 1 (n = 5)		High	Med/High		High		Med/High	High	Med/High	High
Aberdeen 2 (n = 3)	Med/High	High	High	Med/High	Med/High	Med/High		High	Medium	High
Aberdeen 3 (n = 2)		High	High	Med/High				High	Med/High	High
Edinburgh 1 (n = 4)		High	High		High		Medium	High	High	
Edinburgh 2 (n = 4)	Medium	Med/High	High	Medium	Medium		Medium	High	Medium	
Edinburgh 3 (n = 4)		Med/High	Med/High	Med/High	Med/High	Med/High	Med/High	High	Med/High	High
Edinburgh 4 (n = 5)		Med/High	Med/High		Med/High	Med/High	Med/High	Med/High	Med/High	
Edinburgh 5 (n = 6)		High	High	Med/High	Med/High	Med/High	High	High	Med/High	High
Edinburgh 6 (n = 5)		High	High		Medium		Med/High	High	Medium	

The remainder of this section reports a summary of the comments from the Jack groups while they were 'thinking aloud', or presenting their MHRAs. To support the following summary of comments, a completed worksheet from a Jack group is given in Appendix 12.

7.3.2 Partially Weight Bearing

Jack is not always able to take his own weight when transferring (e.g. moving from a chair to chair) and this is associated with the risk of him falling and injuring himself. The *"inconsistency of his weight bearing"* was noted by Group 5 CEC A participant in group 2 BAC commented that *"Jack's non weight bearing was consistently an issue with the identified hazard of him falling with a medium high risk of him sustaining an injury."* When fatigued, Jack's inability to weight bear increases the risk of a fall. Using Jack's case study most groups discussed this important stage (weight bearing to partial to non-weight bearing) in a client's moving and handling journey. They talked over the changes from Jack being able to stand and walk, to walking by holding furniture, to walking with an aid, then the need for additional support when coming from a sitting to standing position with the use of a rise chair to the need for a chair/ standing hoist transfer (e.g. Figure 6.12). There are functional issues associated with making these moves as well as the psychological changes of being independent whilst through a change and potential deterioration in Jack's condition he is more in need of help, assistance and the use of equipment which for him is a deterioration in his *"ability to do for himself"*.

7.3.3 Extensor Spasms

A key presenting issue in dealing with a client with MS is the potential for the person's limbs to develop or go into spasm which then leads to the individual extending back. Due to such a spasm, Jack could extend and with the rigidity in his limbs slide off a chair. Group 1 BAC wanted to know *"what is causing them (spasms)?"* with Group 5 CEC commenting that Jack's *"unconventional transfer method could induce his spasm."* Group 2 BAC mentioned that there are *"….hazards around his spasms, and that these involuntary spasms could affect Jack at any time."* Similarly, if Jack falls as a result of a spasm, carers would

need to hoist him off the floor. Jack does not like being hoisted, and given Jack's attitude to carers, there is a risk of verbal abuse towards them.

Some participants talked about the application of the sling accessories and the potential for the sling to pull / catch in Jack's inner leg when he is being hoisted which will further induce spasms. They talked about the need to flex Jack when hoisting him and how this could be achieved using different sling loop options. There was some discussion around the need to understand what could induce a spasm, practically explain this to carers and then manage the use of the equipment to ensure that it helped rather than caused a spasmodic episode with Jack. Making the sling, hoist equipment work together to avoid unnecessary pinching of the skin, pulling on the limbs was another area of discussion which was then practised by some of the groups (Figure 6.13).

7.3.4 Fatigue and Weakness

Fatigue and weakness are key indicators of multiple sclerosis as a medical condition. For Group 2 BAC "***this influences what Jack can or cannot do."*** Tiredness, leading to low mood and a lack of motivation could all potentially result in Jack falling. Although Jack could turn in his bed he was probably unable to regularly change his sleeping or lying position, which poses risk for pressure and breathing. Psychologically, ***"Jack doesn't seem to accept"*** that he can't do certain daily living activities due to weakness in his legs, Group 1 CEC. This group wanted to examine the use of some equipment, for example, the correct use of a transfer board or with some carer input and assistance the appropriate and assessed use of a riser chair to allow Jack to transfer without a lot of effort which would help him conserve his energy in transferring from his chair to wheelchair so that he could do another important task, for example, propel his chair to another room. Although there is a noticeable weakness and fatigue associated with Jack's condition, this "can do" approach can raise his mood. Group 2 CEC cautioned that "***questions need to be asked around his consistency in weight bearing."***

7.3.5 Poor Memory

Jack is unable to consistently remember instructions or safety measures around the home. When carers or friends were not in the home, it was identified that he

was possibly undertaking unsafe moves and forgetting to close and lock his doors. The groups discussed discretely using message boards to create a daily "to do list." This reminder method could be used to outline key daily weekly, monthly activities. There are many Telecare aids which can be used as a prompt for Jack and for Group 1 CEC could be used as a way of identifying "**realistic goal setting for Jack.**" Group 2 CEC wanted to consider if **"forgetting to do things, made him frustrated and angry?"** They linked this to the verbal aggression issues highlighted in the case study. All the groups considered interventions by other health professionals like whether Jack could be helped by staff from a memory clinic or information could be left for him to read.

7.3.6 Current Method of Wheelchair Transfer

Participants identified the hazard of a fall with a high risk of injury when Jack insists in moving unconventionally from his wheelchair to another chair. They commented that if he misses the transfer board, or doesn't use it, he could easily fall and hit himself off other furniture. The groups discussed that Jack didn't see his transfers as being an issue as all he wanted to do was maintain a level of independence. He wanted to continue to do for himself and show everyone that he was in control of what he did in his own home. Group 4 CEC "**had concerns around the progressive nature of Jack's condition."** They believed that it was important to identify what he could do safely to try and maintain his independence, even although there were signs of him " not being able to do transfers as well, safely" as before. Some of the groups commented that Jack had **"learned how to do his own transfers"** This was fine as long as he could do them safely but that for CEC Group 5 they were concerned that "his ability to transfer over time will deteriorate."

7.3.7 Poor Fine Motor Control

Poor fine motor control is a result of Jack's multiple sclerosis. The risk associated with poor fine motor control is Jack not being able to feed himself and not get appropriate nutrition and fluids. For group 5 CEC **"he has fine motor control issues which make him annoyed and angry at his lack of ability to help himself."** They suggested that exercises and hand splints should be investigated

with therapists to control the weakness in Jack's hands in order to help Jack stop dropping items (e.g. cutlery, drinks). This type of activity needs to be organised and time spent with Jack to help with these tasks. Perhaps the carers could do some of this work. For example, help him learn to use adapted cutlery or encourage him to use a kettle tipper when making tea. Group 3 CEC commented that his motor control and his ability to grasp cutlery *"could be affected by his spasm."* It is also linked to his attitude towards doing for himself and whether he has the energy/concentration/willingness to carry out a task from start to finish. They wondered whether reminding him what he couldn't do led to an outburst and verbal aggression. Group 1 BAC wanted to examine *"the control of his spasms"* when doing any activity and to try and encourage *"his favourite carers"* to introduce ideas and perhaps help him with such activities involving motor control.

7.3.8 Minimal Supervision and Support when doing Wheelchair Transfers
Jack wants to remain as independent as possible but minimal supervision when doing wheelchair transfers is a hazard as Jack could miss the transfer board, with the risk of a fall. Group 3 BAC discussed *"what minimal supervision was"* as Jack doesn't *"always remember to do things"* (as per poor memory, above). They also felt that he "*has unrealistic expectations of carers"* and so they were unsure whether to help or not help him when he was transferring. Jack has an unconventional way of transferring (as per Figure 5.15) and so carers and professionals were concerned as pointed out by Group 1 BAC about the *"misuse of equipment for transfers."* All the groups discussed his transfers and practised doing some of them in the practical sessions. Group 1 BAC thought that *"his transfers were dangerous"* and would want a carer in the same room when Jack transferred. Group 2 BAC identified that *"carers had to help him in his transfers and thought that these should be done at specific times."* Group 1 CEC identified that Jack *"wants to continue to pull himself across from his seat to his wheelchair or undertake other lateral transfers."* They wondered if there was a requirement to teach Jack how to transfer with assistance from a carer. As Group 3 CEC noted *"there is a risk of verbal aggression towards carers when transferring"* (see below on verbal aggression).

7.3.9 Verbal Aggression

Verbal aggression was identified as a hazard but also identified as part of other hazards. Group 3 CEC commented that Jack's ***"aggression is a key hazard and could be harmful towards carers."*** The associated risk from this hazard was stress for carers and healthcare professionals. It was suggested that working with Jack to change his attitude toward his condition and accepting help may remove this hazard. This group identified the ***"need to get to the root cause of his aggression"***. For example, "***is he scared? Is he unsure of his condition changing? Is he on his own too much? Has his condition affected his mood, his ability to do?"*** (see above on transfers, and fine motor skills). As Jack's condition is changing, so potentially for Group 1 CEC is his "***nature and this is potentially hiding behind his aggression."*** There is the possibility that he sees help as interference by others and then for this group he becomes "***verbally abusive to those caring for him."*** Group 2 BAC recognised the inter related issues around Jack's aggression and wanted to build ***" a true picture of Jack and his condition ....and also wanted to look at his condition as it presented on good and not so good days."*** That is, if he could do things did his aggression diminish, if he couldn't do for himself was he then in an aggressive and bad mood. Most of the groups wanted to see if his aggression could be monitored and if there were ***"triggers"*** that set Jack off into a bad mood from which he routinely became aggressive. Moving and handling of clients with complex needs, who are making transfers, needs the person making the transfer to be cooperative and cognitively aware of what is going on in the transfer. Attention to the detail involved in the transfer when using a lateral transfer board is an important part of the assessment. If this transfer doesn't work then there is for Group 1 BAC the high risk of failure, falling and potential injury to Jack and his carers if they are assisting him. ***"Is he putting carers into hazardous situations when helping him?"***

7.3.10 Reluctance to Accept Care and Support

Group 2 BAC "talking from an experienced point of view" suggested that Jack doesn't want help as he thinks he can manage on his own. Most other groups noted that this was not the case and that Jack is possibly ***"annoyed at his lack of ability"*** which potentially makes him reluctant to accept help/care/support.

Jack's reluctance to accept care and support was noted as a hazard in relation to the hazards of poor fine motor control and minimal supervision and support when transferring. The care issues around *"what he used to do and now can't achieve"* along with losing control over his own ability to remember everyday activities (see above on poor memory) means for Group 3 CEC that he is *"uncooperative and feels threatened."* His opposition to anything associated with care is an obstacle. Group 4 CEC wanted to *"work with him in realising what carers could do to support him"* and ensure that he could adapt his home life to the noticeable changes in his condition. Various groups wanted time to meet with him and over several meetings introduce the benefits of care and support. They discussed the need to devise a strategy of dealing with Jack and his opposition to care and for Group 4 CEC they felt that is was important for HCPs and carers to *"develop skills to deal with Jack and other similar MS cases."*

Group 1 CEC discussed the suitability of Jack's care package with respect to helping him set *"achievable goals for himself"* with appropriate assistance. Verbal aggression toward carers when offering assistance was discussed by all groups.

Figure 7.1: Workshop Participants using a Standing Hoist to explain their Clinical Reasoning around Jack's Transfers

7.3.11 Skin condition

Although he could move and alter his position, Jack was not consistently moving into other seating equipment or his bed for pressure relief on his body which increased the risk of pressure sores. Pressure sores can occur when there is a lack of client mobility. The HCPs commented that other hazards like continence and infections could affect his skin.

7.4 Findings from Workshops – Jenny groups

This section presents the findings from the Workshop Participants about the Jenny case study. Refer to Section 5.6 for details about the Workshops and the 'Think Aloud' procedure.

7.4.1 Hazard Identification and Risk Ratings

Table 6.2 indicates the hazards identified by each participant group and the associated risk rating. As can be seen, the 11 hazards identified by the pilot group were identified across all participant groups, but no one participant group identified all 11 of those hazards. Some participant groups gave a risk rating of 'Medium-High' for some hazards when there was not an overall agreement in the group as to whether the risk was medium or high.

Table 7.2: Hazards Identified and Risk Ratings by Participant Groups for the 'Jenny' case study

Group / Hazards	Weight of client	Fatigue and weakness	Body shape and size	Equipment	Equipment SWL	Limited ability to assist in transfers	Twisting / turning in moves	Environment	Attitude to carers	Skin Integrity	Mood
Aberdeen 1 (n = 5)	Very High			High	High	Medium	High	Very High	High	Very High	Med / High
Aberdeen 2 (n = 3)	Very High	High		High	High	High	Medium	Very High	Med / High	High	
Aberdeen 3 (n = 2)	High	High	Medium			Medium		Med / High		High	Medium
Edinburgh 1 (n = 4)	Very High	Very High	High	Med / High	High		High	Med / High	High	High	Med / High
Edinburgh 2 (n = 5)	Very High	Med / High	High	Med / High	High	Med / High	Med / High	High	Med / High		Med / High
Edinburgh 3 (n = 5)	Very High	Med / High	High	High	High	Medium	Medium	High	Medium		Med / High
Edinburgh 4 (n = 5)	Very High	Med / High	High	High	High	High	High	High	Medium		
Edinburgh 5 (n = 5)	Very High	High	High	High	High		High	High		High	High
Edinburgh 6 (n = 5)	Very High	High	High	High	High		High	Very High	Med / High	High	High

The remainder of this section reports a summary of the comments made by the Jenny groups while they were 'thinking aloud', or presenting their MHRAs. To support the following summary of comments, a completed worksheet from a Jenny group is given in Appendix 15.

7.4.2 Weight of Client

Many hazards were identified due to Jenny's weight. As Jenny is not able to weight bear, there are risks of musculoskeletal disorder for carers due to moving and handling a client of Jenny's weight (e.g. lifting Jenny's leg for cleaning, dressing, and applying a sling). BAC Group 1 identified that "***twisting, moving, positioning Jenny, her limbs is hazardous work for carers with very high associated risks of injury.***" Her weight was also identified as a hazard associated with the risk of skin breakdown as Jenny is not able to move herself easily. Other risks associated with Jenny's weight are diabetes and high blood pressure. For example, one participant in CEC Group 3 commented that ***"there are high levels of medical need with Jenny."***

7.4.3 Fatigue and Weakness

Jenny's weight makes her fatigue easily and that this is a hazard as carers have to constantly "do" for Jenny (e.g. lifting, moving, and turning which are all hazardous moves for carers). CEC Group 1 ***"Jenny's fatigue and weakness may also be associated with her low mood."***

7.4.4 Body Shape and Size

The groups referred to Jenny's body shape using the accepted terms of "apple" or "pear" shaped. For CEC Group 3 ***"From the description in the notes she is a bit of both (shapes)."*** Jenny's shape makes it difficult to turn her. The participants commented on the space issues on Jenny's bed (see equipment). A single bed is too narrow to accommodate Jenny's shape when she is being turned. Her shape is causing problems with the equipment (Safe Working Load) and the equipment is not able to accommodate safely her shape when she is being moved (see non ability to assist in transfers). It is also difficult for carers to get into a good close position to move Jenny. The participants noted that it is difficult to deal with her

personal care as they can't insert slide sheets to move her. Her body shape is difficult to accommodate in most of the equipment and the hoist and sling are problematic (Figure 7.2). For personal care the shape of Jenny's body makes it difficult to get access to wash her which in turn creates hazards around her skin care and its integrity.

7.4.5 Equipment

Some of the equipment being used was unsuitable for Jenny. This was especially the case with the hoist and the sling. Compatibility of different pieces of equipment was also considered (e.g. the single bed with the airflow mattress, the pressure cushion with the wheelchair seat base, the turning circle of the wheelchair and shower chair, and the general manoeuvrability of the equipment). Group 3 CEC commented that ***"the size of the equipment is large, the room size is not big enough for all the equipment and there is too much clutter."***

Figure 7.2: Workshop Participants using their Clinical Reasoning to decide on the use of a Passive Hoist and sling to lift Jenny from a bed as part of a transfer to her wheelchair

Jenny's bedroom was too small for the equipment to be accommodated safely in that space. For Group 2 BAC *"There are access issues around the equipment in her single room, given the lack of space and the size of the equipment."* This was identified as a hazard for carers as they would have to twist as they moved the hoist in the bedroom with associated risks of injury to Jenny and the carers, and damage to other household items. For CEC Group 5 "*The equipment is big and needs space to move it. The issue is that the space is not there."*

Jenny's powered tilt in space wheelchair was identified as a hazard. This is a large item of equipment which poses a hazard of bumping into people and equipment if Jenny does not use it correctly with associated risks of injury to Jenny, carers, and damage to fixtures and fittings. If the wheelchair needs to be

moved manually, it is heavy and not easy to turn, raising the risk of injury to carers.

It is difficult to apply a sling to Jenny in her wheelchair so she sits on the sling at all times. This has the potential to mark her skin and complicate her pressure care. It is a hazardous move to try and adjust the sling when Jenny is in the chair. Group 2 BAC mentioned that *"there is a risk of injury and displacing her catheter when inserting the sling."* This is associated with her weight, her inability to assist and the inappropriate and unsafe way in which carers need to turn her on her single bed. It is also hazardous to hoist her without the sling being in the correct position. Other equipment which would reduce the risk of injury when altering the sling was identified. Participants discussed slide sheets to apply the slings and the use of the tilt in space mechanism and the raised leg rests to alter her position when seated. They discussed the use of a lap belt on her wheelchair to reduce the risk of her sliding forward on the seat, and consulting a wheelchair and seating specialist to consider adjustments to her chair. The provision of a new postural managed chair was also suggested. Jenny would need hoisted into this type of chair but would potentially position her better and offer her better pressure relief than being in her wheelchair all the time.

7.4.6 Equipment – Safe Working Load

Jenny is dependent on hoisting and other assistive technology equipment to allow her to be cared for at home. The equipment needs to be suitable and sufficient to do all the professionally assessed care tasks. The safety of the carers using the equipment is an important element and consideration in the overall MHRA. From the case study notes the various participant groups commented on the identified hazards and associated risks around the use and application of the equipment being used by Jenny. The hoist equipment requires LOLER inspections every six months. Under these regulations there is a legal obligation to ensure that the equipment is serviced and maintained within the manufacturer's recommended safe working load capacities. It is evident that Jenny's bed is not meeting regulated SWL standards (PUWER 1998). Group 3 CEC commented that *"she is 9 stones over the SWL of the equipment."* This is a hazard for Jenny if she is in her bed as there is a risk that the bed will collapse and injure her. This is also a hazard for carers if the bed

collapses while they are working with Jenny.

7.4.7 Limited Ability to Assist in Transfers

Jenny can't transfer without a hoist, sling and the help of carers. She is frustrated at not being able to assist carers in transfers. However, Group 3 CEC noted that "she has a limited ability/willingness to assist in doing anything." This was identified as being potentially hazardous as Jenny may get annoyed with herself and in turn become upset and stress the carers who are trying to help her achieve certain goals and tasks. Group 1 CEC mentioned that ***"various issues around her health could be working together to complicate her transfers and her moving and handling."*** She needs to move to take pressure off her affected sore area/s. To do this she needs to be hoisted and transferred. Inserting the sling (see equipment) as previously noted is complicated and could cause damage to her skin. The sling and hoist are a problem so moving her takes time and she becomes frustrated (see mood, below) as she cannot assist due to her SCI and her weight transfer. It would appear that the equipment is not compatible (see equipment SWL, above) so any transfer is potentially hazardous with high risks for Jenny as well as the carers delivering the care. Group 3 CEC commented on the ***"inter related issues around, transfer, care, moving and handling, condition and back to transfer."***

7.4.8 Twisting / Turning in Moves

Hazards associated with moving Jenny involve the carers needing to get close to turn and support her in her bed. Arms-length moves, twisting to position her in bed when she is being dressed are all hazards. These hazards are associated with risks of repetitive injuries caused by moving Jenny's weight and body shape. There is twisting and turning when moving her out from the bed on the hoist. The bed, hoist, sling are not the right size to meet her needs. These moves are further complicated by Jenny not assisting (see ability to assist in transfers, above) as well as limited space (see environment, below). Group 5 CEC commented that there "***are concerns for the carers, pushing, pulling and turning the equipment with and without Jenny in it."*** Jenny is hoisted into her power chair which involves additional moves to ensure that she is sitting in a posturally managed position. As she can't assist in this move, the carers have to learn how to place Jenny in a chair

correctly. She fits neatly into her power chair which in turn means that carers have to ensure that her clothing is straight under her and that there are no ridges from her clothes or the sling which she sits on all the time.

7.4.9 Environment

Group 3 CEC noted that " *the environment sounds a real nightmare."* Lack of space in her bedroom, point loading on the floor, and turning space in her rooms were all identified as hazards with respect to Jenny's home. More specifically, Group 3 CEC noted *"no space to do anything, this is typical of home environments in the community."* Many of these hazards seemed to have been overlooked by the designers of Jenny's wheelchair accessible bungalow. Group 1 CEC asked what was meant by *"adapted house for Jenny?"* Group 5 CEC mentioned that *"there is a lack of space in her bedroom, her door widths are too narrow, there is insufficient access in/out of her house and turning areas are unsuitable."* Jenny's changing functional and physical needs in relation to her home were considered along with the options of caring for her in a different room in her home. Group 4 CEC noted that at present *"there are hazards about moving and handling Jenny in a restricted space."* These were talked over as a way of meeting her current and future care needs and formed part of the discussion on the opportunities to alter her home environment to meet these objectives.

Group 4 CEC suggested that *"we should do a TILE based Risk Assessment on the environment on its own such were the problems with the environment."* Many of the groups commented on the constant issues with the environment in houses. Most houses were not built to take a lot of equipment which quite often had a large footprint and which needed a certain amount of turning space. Adequate storage for all the equipment Jenny needed was another issue. Group 2 BAC *" everything is big, no space, clutter, lack of turning space….."*

7.4.10 Attitude to Carers

Jenny's non-compliance and unwillingness to assist carers can be stressful for them. Stress can increase the risk of carers refusing to work with Jenny or developing stress-related illnesses. It was suggested that carers receive

additional training to help them put down some markers with Jenny around her presenting stress /anger management issues. These could potentially lead to introducing coping mechanisms for Jenny's stress which could involve the community Psychiatric Nursing Team and potentially a clinical psychologist to help in dealing with her stress and its related issues. Group 2 BAC stated *"perhaps Jenny feels lonely, vulnerable, not in control"* but according to Group 1 BAC *"Moving equipment with Jenny in it makes her anxious."* Jenny is aware of her shape and size, she knows how difficult it is to move her as she will have heard carers, professionals and others comment on this. Perhaps her attitude to carers and others is her way of expressing her concern, fear at being moved, potentially injured or the possibility of the equipment breaking down as she is over the SWL. Group 2 CEC wanted to use these attitudinal issues to *"consider the education and training offered to the carers to look at how they deal with heavy people in their homes."* Group 4 CEC considered that *"given the number of carers dealing with Jenny there is the potential for mistakes to be made in how Jenny is moved and handled."* Any mistake in her care giving will be transferred to Jenny as she is totally dependent on people for all her care needs. Such anxiety may come across as being difficult, pass remarkable or unwilling to help.

7.4.11 Skin Integrity

Jenny's continence status is managed by the district nurses. She needs to be changed regularly which means that she requires to be hoisted onto bed, moved and handled, clothing altered and her personal care needs attended to. There are constant pressures on her skin in all these task related jobs. Her medical conditions and the medication that she is on has an effect on her skin integrity. For Group 3 BAC *"there are circulation issues which will affect her skin."* Jenny's skin is friable and there is a risk of infection and the development of pressure sores as she is sitting most of the day in her only suitable chair. She gains some relief from lying but this involves hoisting and the use of equipment. Her skin is pulled when she is being turned in her bed or moved in her chair. All these turns are complex and require carers to handle her skin. There is friction to her skin when the sling is being applied and she is being hoisted. There is the potential for shearing on areas of her body where, due to her weight and skin folds, carers can't see the marking

damage that is being done to her skin when the sling is being applied. Group 5 CEC mentioned this issue that *"there is potential skin breakdown caused by the wrinkling of the sling where she sits on it."* As noted with the unsuitable equipment hazards, the carers are in a hazardous position holding and turning her. They are unable to sustain her in a turned position to examine the skin properly.

7.4.12 Mood

Jenny's changing mood especially when she is at a low point is a hazard which brings a risk of stress to carers. Group 5 CEC mentioned that Jenny *"must be weary when she goes to do anything."* "Her mood swings can result in some carers refusing to work with Jenny, or not complying with the MHRA. Group 3 CEC wanted to know *"why her mood is poor."* The participants wanted to address this issue with Jenny and to involve other people in trying to offer Jenny coping mechanisms when her mood led to her unwillingness to cooperate with carers. Group 4 CEC were keen to identify what happened on *"good days"* how Jenny felt on these days and what were the triggers to make a day "*bad.*" Group 6 CEC felt that *"Jenny would be very prone to weakness, fatigue/tired/mood issues due to her immobility caused by her various medical conditions but primarily with her weight."* They wanted to involve her GP, dietician and other health professionals in addressing these mood related issue.

7.5 Thematic Analysis

A thematic analysis of the hazards / risks identified by each group on their case study worksheets was conducted and whilst they were 'thinking aloud', presenting their MHRAs, and discussing common issues during the concluding discussion. Five common themes / factors were identified that participants considered when identifying hazards, assessing risks, and communicating the assessment of those risks. These five factors are: 1) Medical Condition, 2) Equipment, 3) Home Environment, 4) Complexity, and 5) Community Care. Table 7.3 demonstrates how the workshop data was coded to generate these themes / factors, then the remainder of this section describes each theme in more detail with supporting quotes from the concluding discussions.

Table 7.3: Summary of how Workshop Data was Coded to Generate Themes

Theme (Hazard / Risk to consider when conducting a MHRA in a Community Setting)	Hazard / Risk from Workshop Data	
	Jack	**Jenny**
Medical Condition	-Multiple Sclerosis; A progressive degenerative neurological condition *Identified from worksheets and comments made during 'think aloud' procedure (see 7.3) and concluding discussions (see 7.5.1 below)*	-Spinal cord injury, -Type 2 Diabetes, -High blood pressure *Identified from worksheets and comments made during 'think aloud' procedure (see 7.4) and concluding discussions (see 7.5.1 below)*
Equipment	-Current method of wheelchair transfer - occasional use of mobile hoist and sling *Identified from worksheets and comments made during 'think aloud' procedure (see 7.3) and concluding discussions (see 7.5.2 below)*	-Equipment; mobile hoist and slings -Equipment (Safe Working Load) -Limited ability to assist in transfers -Twisting/turning in moves by carers *Identified from worksheets and comments made during 'think aloud' procedure (see 7.4) and concluding discussions (see 7.5.2 below)*
Home Environment	-Home Environment *Identified from worksheet and comments made during 'think aloud procedure (7.3) and concluding discussions (see 7.5.3 below)*	-Environment in an adapted bungalow *Identified from worksheet and comments made during 'think aloud' procedure (see 7.4) and concluding discussions (see 7.5.3 below)*

Theme (Hazard / Risk to consider when conducting a MHRA in a Community Setting)	Hazard / Risk from Workshop Data	
	Jack	**Jenny**
Complexity	-Partially weight bearing -Extensor spasms -Fatigue and weakness -Poor memory -Poor fine motor control -Skin condition *Identified from worksheets and comments made during 'think aloud' procedure (see 7.3) and concluding discussions (see 7.5.4 below)*	-Weight of client -Body Shape and size -Fatigue and weakness -Skin integrity -Mood *Identified from worksheets and, comments made during 'think aloud' procedure (see 7.4) and concluding discussions (see 7.5.4 below)*

7.5.1 Medical Condition

All the participants noted that both Jack and Jenny have complex needs due to their chronic medical conditions. Jack has Multiple Sclerosis which is a progressive, degenerative condition. His condition can be variable which presents challenges when trying to provide him with care that meets his needs but still promotes his independence. Group 1 CEC created a list of 6 key hazards that they agreed upon related to Jack. They accepted that there may be double this amount given the ***"changing nature of his medical condition."*** They did see that his condition was deteriorating. In order to understand his complex needs staff delivering the care ***"need to be trained, need to understand Jack's condition and need to be able to positively deal with the whole Jack."***

Jenny's spinal injury prevents her from leading a fully independent life as she relies on support to carry out personal and daily tasks. Participants explained that her paralysis underlies many of her medical problems associated with her weight like diabetes, an on-going sacral pressure sore and poor skin integrity. ***BAC, Group 2, commented that from their experience "there were bits missing in the case study text that they would want to look at in more detail about the medical reasons for Jenny's weight."*** They noted that other hazards identified in the Jack and Jenny cases like fatigue and weakness, poor memory, poor fine motor control, weight, body shape and size, and mood are all related to the underlying medical conditions. Group 2 CEC noted that ***"there are lots of medical issues to consider around the clients like Jenny and that this detail needs to be clearly mapped out."***

7.5.2 Equipment

Participants noted that appropriate equipment is needed to move and handle Jack and Jenny safely. For Jack, this could be the necessary transfer board, or height adjustable plinth to help him move safely from chair to chair or plinth. For Jenny, this could be a suitable hoist and sling, a wide bed and an accessible toilet. They also noted the need for specificity of equipment to the client and the client's home environment. Group 5 CEC noted that ***"the environment was highlighted***

consistently as a huge issue." This group commented that there "was a lack of space in the house and this presented as a really hazardous set of circumstances when moving equipment, hoisting Jenny or just simply doing their work when moving equipment in a restricted area."

Participants mentioned that the training activities in the workshops led them to consider their experience of matching equipment to their clients' needs. They talked over their duty of care and the criteria for the provision of equipment from their organisations. They discussed the existing equipment used by Jack and Jenny and highlighted its limitations. They noted that any equipment being supplied or changes made to existing equipment should be discussed with the client in order to help the client appreciate the hazards and associated risks.

7.5.3 Home Environment

Participants highlighted that clients' homes can present many hazards to both healthcare professionals, carers, and the client. For example, the case notes described Jenny's home as a wheelchair accessible bungalow. Participants questioned this by considering the access and egress, door widths, and turning circles. Once all the equipment was in Jenny's bedroom, participants noted that there was little room for carers to move and handle her on her bed as the turning circle using a mobile hoist was restrictive. Group 2 CEC noted *"in the community there are lots of issues that staff have to deal with…..there is not enough space to do everything. They mentioned that routinely "it is difficult to work in limited space, with lots of furniture and at the same time be sensitive about the environment of someone's home."* The same situation was encountered in Jack's house when he needed to be hoisted off the floor. This meant that the carers had to compromise the way in which they moved and handled the different items of assessed for equipment, with and without the client in it, and that clients didn't always appreciate these risks.

Participants noted that there may be too much furniture in a client's room but they recognised that a carer's work environment is the client's home, and that to some extent clients can live the way they want to. They recognised the need to balance

the risks associated with providing care, keeping clients and staff safe, and respecting the client's home.

7.5.4 Complexity

Participants noted that due to their medical conditions, Jack and Jenny have complex needs. They noted that clients with complex needs often experience acute episodes requiring hospitalization. For example, Jenny could be admitted to hospital for any of her presenting conditions and the hospital will deal with an acute episode and then if appropriate discharge her home to be cared for by community staff. It is unlikely that Jenny would be admitted into long term care while there is still the option for her to be supported at home.

Participants discussed the future needs of Jack and Jenny. They noted that as their conditions vary and change due possibly to degeneration, age, and other potentially underlying medical issues, their care has to adapt and alter to meet these new and additional complexities. Participants noted that there would be resource implications (e.g. different hoisting equipment, new specialised seating, changes to their home environments to accommodate new moving and handling plans) for the care providers associated with these changing requirements. Group 4 CEC were concerned and commented that *"it appears that she (Jenny) has a variable relationship with the carers."* Similarly Group 2 BAC noted that *"there are hazards associated with her mood: attitude to carers/HCPs. There is an unwillingness to help."* The groups recognised that the term *"complex"* means so many different things to clients, professionals, carers. They discussed the detail in the risk assessment as a starting point for identifying *"complex hazards" and their "associated complex risk."* Group 4 CEC wanted "*to get to the bottom of some of the hazardous issues."* They identified 8 key hazards. This group of hazards showed them the importance of establishing a base line of assessment needs for Jack. By taking each identified hazard they believed that this would *" help to get a plan of action underway."*

7.5.5 Community Care

Participants noted that there are different hazards to providing care in the community than in acute settings. Group 6 CEC noted that Jack is ***"just one of an increasing number of complex clients staying at home who are living longer and whose needs are changing and the demands for assistance from family, carers and others are growing."*** For example, clients' homes vary in size creating hazards for carers who may have to work in constrained spaces, or twist and turn when manoeuvring wheelchairs. In examples like this, they recognised the need to balance the risks associated with providing care and keeping staff safe. For Group 2 BAC "***the education and training offered to the carers and how they deal with heavy people in their homes"*** is a very important part of delivering care in the community. This statement can equally apply to Jack as Group 1 BAC stated ***"effective training in the use of equipment is vital in helping a person stay in their own home, eg the hoist and slings, transfers using a board to bridge between bed and chair."***

They highlighted that the provision of community care has been contracted to care agencies and discussed the challenges of communicating MHRAs across organisations. They also noted potential hazards associated with miscommunication that can arise between the acute and community sectors. For example, when being admitted to hospital / returning home from an acute episode, delays in medical reports, and not sharing MHRAs can compromise the client's care.Participants also noted the potential for conflict between organisations working in the community setting over responsibility for ensuring the implementation of MHRAs. They noted instances of the lack of integration of services and that the details of a care package need to be communicated to the client.

7.6 Developing the Proposed Model with Workshop findings

Figure 7.3 shows the proposed model amended with the findings from the Workshops. The model now specifies that community healthcare professionals should consider the client's Medical Condition, Equipment, Home Environment, Case Complexity, and Community Care package as part of clinical reasoning in MHRAs.

Risk Perception

HSE '5 Steps'	Levett-Jones CR Cycle
Hazard Identification	Consider the patient situation
Decide who might be harmed	Collect cues / information

Hazards / Risks
Medical Condition
Equipment
Home Environment
Complexity
Community Care

Risk Communication

HSE '5 Steps'	Levett-Jones CR Cycle
Record your findings and implement them	Take action
Review your assessment and update if necessary	Evaluate outcomes
	Reflect on process and new learning

Risk Decision-Making

HSE '5 Steps'	Levett-Jones CR Cycle
Evaluate the risks and decide on precautions	Process information
	Identify problems / issues
	Establish goals

Stages of Development in Clinical Reasoning (Benner, 2005)

Figure 7.3: Proposed Model amended with Workshop findings

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The workshops provided the practical setting for the HCP to consider their clinical reasoning around the two case studies. The workshop environment simulated the community environment and allowed the MHRA to be "walked through" by the participants. The Workshop findings were used to inform the development of the interview questions so that the proposed model could be developed further with respect to stages of development in clinical reasoning. This information is now considered by reporting the findings from the Semi-Structured Interviews..

7.7 Interviews

The research discussion now presents the findings from interviews with a sample of workshop participants, so as to investigate the role of experience in clinical reasoning in MHRAs. In accordance with the proposed model (Figure 7.3), each of the five workshop themes (Medical Condition, Equipment, Home Environment, Complexity, and Community Care) were considered with respect to the processes Risk Perception, Risk Decision-Making, and Risk Communication for participants with different levels of work experience. The data in accordance with Benner's model of the developmental stages in clinical reasoning was coded. From my sample of participants, three stages (Novice, Competent, and Expert) of clinical reasoning were identified in MHRAs in community settings. These stages were incorporated into the proposed model. (For tables 7.4 to 7.12 refer to Appendix 30).

7.8 Findings and Analysis about Risk Perception

This section presents the interview findings and results of analysis about risk perception. Tables 7 .4 and 7 .5 present a summary of comments from 'Jack' and 'Jenny' participants respectively, organised by job role and workshop theme (Medical Condition, Equipment, Home Environment, Complexity, and Community). The risk perception findings were then coded according to Benner's stages and

descriptors to develop level-descriptors about risk perception. These level-descriptors are presented in Table 7.6.

7.9 Findings and Analysis about Risk Decision-Making

This section presents the interview findings and results of analysis about risk decision- making. Tables 7.7 and 7.8 present a summary of comments from 'Jack' and 'Jenny' participants respectively, organised by job role and workshop theme (Medical Condition, Equipment, Home Environment, Complexity, and Community). The risk decision-making findings were then were then coded according to Benner's stages and descriptors to develop level-descriptors about risk decision-making. These level-descriptors are presented in Table 7.6

7.10 Findings and Analysis about Risk Communication

This section presents the interview findings and results of analysis about risk communication. Tables 7.10 and 7.11 present a summary of comments from 'Jack' and 'Jenny' participants respectively, organised by job role and workshop theme (Medical Condition, Equipment, Home Environment, Complexity, and Community). The risk communication findings were then coded according to Benner's stages and descriptors to develop level-descriptors about risk communication. These level-descriptors are presented in Table 7.12.

7.11 Developing the Proposed Model with Interview Findings

This section reported findings from semi-structured interviews in order to develop the proposed model with the stages of development in clinical reasoning. The model now specifies that clinical reasoning in MHRA develops through stages of Novice to Competent to Expert as a function of experience through different job roles. An empirical contribution (which supports the proposed model) is the development of Level-Descriptors of clinical reasoning in MHRAs in community settings (see Tables 7.6, 7.9, and 7.12).

7.12 Three Stages of Development of Clinical Reasoning in MHRAs in a Community Setting.

In classifying participants according to Benner's stages and descriptors of clinical reasoning, it was not possible to differentiate between Novice and Advanced Beginner, and between Proficient and Expert. Thus, from the research findings and the input of the HCPs three stages of development: Novice, Competent, and Expert was identified. It is perhaps not surprising that it wasn't possible to differentiate between Novice and Advanced Beginner in the sample. Benner classified Novices as students whereas all of the participants in the research were qualified and working as HCPs who would have more experience than students. It is also not surprising that all participants in a group interview were classified at the same stage (confirmed by later checking) as they had similar job roles / manual handling experience (i.e. mixed work experience, policy and procedure role, senior / team management role). However, this may have been an artefact of the group interview process whereas one-to-one interviews may have yielded finer differentiations between participants with similar job roles. This is also a plausible explanation for why it was not able to differentiate between Proficient and Expert in the sample as well. Further research using one-to-one interviews (and student Community OTs) would be required to investigate if all of Benner's Five Stages of Clinical Reasoning are applicable to MHRAs.

7.13 Chapter Summary

This chapter has presented the inter- related qualitative study findings from the pilot group through the workshops to the semi structured interviews (Tables 7.1 to 7.12) to inform the research questions on MHRA, Community Setting, Clinical Reasoning and to incorporate the detail into the proposed model which has now been amended with the workshop findings (Table 7.3) and Interview findings (Table 7.4).

Detailed in the Thematic Analysis of the workshop data (Table 7.3), Five Hazards/Risks were identified that should be considered when conducting a MHRA

in the community setting. The data was coded to generate the following themes which are Medical Condition, Equipment, Home Environment, Complexity, Community Care. This information was then positioned into the proposed model which was amended with the workshop findings.

The details noted from the workshop findings were used to inform the interview questions. A sample of the participating healthcare professionals agreed to be interviewed to investigate the relevance of clinical reasoning in a MHRA in community settings. The interviews focused on the five themes with respect to the processes of Risk Perception, Risk Decision Making and Risk Communication. (Tables 7.4 to 7.12). The analysis of the interviews was coded in accordance with Benner's model of the development of clinical reasoning and from this three stages, Novice (mixed work experience), Competent (policy and procedure role) and Expert (senior team management role) were identified. These stages were then incorporated into the model. A summary of the three areas of risk perception, decision making and communication was developed to explain how the interview data was coded to generate level descriptors. (Tables 7.6, 7.9, 7.12). The importance and practical use of these level descriptors for HCPs practicing in the community was highlighted by the facilitators in the Participation Validation Interviews.   The relevance of clinical reasoning in the assessment, decision making and communication of outcomes has been at the forefront of the process. The progression of the research programme has identified and acknowledged that HCP perceive hazards and risk differently (Psychometric Paradigm) but that their basic education and training offers them an opportunity to develop their skills through clinical and practical experience and further learning. The findings in this chapter are broadly consistent with the non-analytic reasoning literature (e.g. Norman et al., 2007) in that experts tend to use intuition or non-analytic reasoning more than less experienced clinicians. An example of this is when participants in a senior / team management role mentioned that **"know from experience"** and **"match ideas"** (see Table 7.6). It is not clear though from this research, the extent to which the experts in the sample used non-analytic reasoning, as this research did not set out specifically to investigate that. Eva et al. (2007) suggested that instructing novices to use a combined approach to clinical reasoning (familiarity-driven pattern

recognition combined with careful consideration of presenting features) can help them overcome misleading information. There may be the potential to use such a combined approach to develop clinical reasoning about MHRAs in community healthcare professionals.

Hazards / Risks
Medical Condition
Equipment
Home Environment
Complexity
Community Care

Novice
Level Descriptor Table
7.3, 7.6, 7.9

Risk Communication
Risk Perception
Risk Communication
Risk Decision-Making

Competent
Level Descriptor Table
7.3, 7.6, 7.9

Risk Perception
Risk Communication
Risk Decision-Making

Expert
Level Descriptor Table
7.3, 7.6, 7.9

Risk Perception
Risk Decision-Making

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Figure 7.4: Proposed model amended with Interview findings

Chapter 8: Participant Validation Interviews

8.1 Introduction

This chapter presents the findings from Participant Validation Interviews (PVIs). The purpose of these interviews was for participants to comment, analyse and criticise how data had been interpreted and the extent to which clinical reasoning is relevant in Manual Handling Risk Assessments in the community. The PVIs were looking at the extent to which the development stages of the model (Figure 7.1) and the application and use of the level descriptors in clinical practice by HCPs was applicable in the community setting (Tables 7.3, 7.9 and 7.12). The findings about the Model and Themes, Level Descriptors, Client Narratives and Photographs, and Implications are presented in the following sections by the Participant Validation Interview groups.

8.2 Findings from HCPs employed by CEC and BAC / NHS Grampian

This section reports the findings from the Participant Validation Interviews with a group of CEC participants and a group of BAC / NHS Grampian participants. Both of these groups comprised HCPs with mixed work experience (Novice), and those working in a policy / procedure role (Competent). Using the data from the semi-structured interviews, these participants had been classified as being at the Novice or Competent stage of MHRA Clinical Reasoning. As mentioned previously, due to restrictions in organisational access, it was not possible to conduct separate PVIs with participants who had been classified at the Novice and Competent stages of MHRA Clinical Reasoning or indeed one-to-one interviews. The experts were the facilitators who participated in this analysis of the data.

8.2.1 Model and Themes

Participants indicated that they understood how the model incorporates the 'Five Steps to Risk Assessment' with Clinical Reasoning. They recalled their participation

in the workshops and they were asked, 'Is it reasonable to assume that these five themes are applicable to people in the community?' "Yes they are." They thought that the themes could generalizes to other condition specific situations.
The participants recognised the five themes. NAR and AR were discussed. The participants then considered and commented and looked at the level descriptors. They were asked the question Do you recognise these Level Descriptors as being applicable? The descriptors are "Very helpful and give a useful set of grades."

Risk Assessment is a very subjective process. The Level Descriptors may give an indication of the levels of competence that a HCP has achieved as well as the themes that had emerged. "Three levels is more than enough." The HCPs recognised that there were probably more than three. However, BAC/Social Work does not have a graded system like the NHS so it is difficult to get a level playing field for comparing competencies. This group comprised mainly of social work staff but had NHS colleagues represented in it. The participants remembered working in groups with the equipment at the workshops to help them deal with the MHRA around Jack and Jenny as two people with complex needs. Their conditions were discussed. They commented that the case studies on Jack and Jenny could generalise to other conditions. There was the person, the condition with which they had been diagnosed, their care, their family dynamic, the environment all which added together made their cases complex. The participants commented that the information discussed at the workshops was helpful and provided useful knowledge to the professionals who attended. The participants validated the fact that they had gained "additional knowledge." at the workshops. They agreed that they had already "used the details" from the workshops in their clinical practice. It was also "beneficial to get together with colleagues" and to practise "how to position clients and do things properly." They agreed that there was a practical aspect to using the MHRA which then helped them to use the equipment correctly.

They (BAC) (CEC) confirmed that Jack and Jenny generalise to other cases and that these cases are common and increasing in number in the community. The participants mentioned that they are seeing more bariatric cases and are having to deal with moving and handling in greater detail and with more complexity around bariatric seating. They mentioned that complex cases are living at home and living

longer (Jack). There was discussion around the two cases generalising to other neurological and obese conditions. "coming across the same issues." The participants mentioned that they could use the type of information from the workshops and apply it across a range of people. "Everyone is an individual but we are trying to cover all areas." The participants commented that they are assessing the person and everything to do with the person with the diagnosis coming as a secondary factor. The person has MS but how does that affect them as individuals. The case studies picked up on a lot of these issues and allowed the HCPs time to discuss these concerns and presenting factors with their colleagues.

8.2.2 Level Descriptors

The themes that had arisen out of the workshop sessions which had been used to compile the semi structured interview questions were mentioned. The participants were shown the table results of the think aloud sessions for Jack and Jenny and then spoke about the colour coding of the risks based on the SMHPIS. This practical information interested the group. For the HCPs the five themes are realistic for the community. The hazards noted and their risk scoring is relevant to the work that the HCPs undertake. They could see the role of the novice, competent and expert HCP assessor. It just depends on experience and the number of people with similar cases that they have dealt with before or have on their case load. Despite these tables and the workshop information there is still concerns about the MHRA for plus size people.

The level descriptors "the themes and the professionals' skill are all relevant to community work." This phrase was discussed in more detail. The group believed that they have a range of professional skills which they are taught at university, by colleagues and through doing their job. They talked about the general nature of their workload but made the observation that they are dealing with an increasing number of complex medical cases in the community setting. They could identify with the Jack's and Jenny's conditions and the content of the two case studies. They verified the forms and they commented on the group work to fill out the hazards and score the risks based on their own and the views of other professionals in their groups.

The group confirmed that they had participated in a presentation at the end of each workshop at which they spoke out aloud about Jack and Jenny case studies, the hazards they identified and the risks associated with these hazards. They were aware that the information was being noted to consider and then develop themes around the research programme. The participants were shown the tables for Jack and Jenny. The HCPs took time to read them. They commented on the "usefulness of the data" that had been gathered on the themes (medical condition, home environment, equipment, complexity, community). The group talked about the themes and considered equipment, community, complexity and the implications of living with a medical condition at home.

There was a discussion about the amount of equipment in a person's home and the size (footprint) of hoists, chairs etc. There is the assessment of the equipment and the provision of suitable products to meet client's needs. They noted that the home setting can present with many hazards and associated risks. The homes that most clients live in "are not always suitable places in which to work." They mentioned "it is the person's home." Both cases looked at the home environment and it was evident from the discussion that the layout of the homes was not easily adapted to the equipment, the conditions and the access needed by the clients to other rooms and in and out of the premises.

Every client's home has some challenge. It could be room layout, furniture, dimensions of doors, access, storage which are just some of the observations from the participants. The issues around the environment of Jack and Jenny's houses were discussed. There were obstacles in Jack's rooms which made it difficult for him to move easily around. There was however a resistance by Jack to changing his room. Likewise to meet Jenny's clinical needs the equipment had a large footprint which meant that her bedroom was too small for the moving and handling and hoisting activities. For the participants the home environment is a very important part of the MHRA as it involves an area where many different activities occur in managing the complex needs and medical conditions of Jack and Jenny. The HCPs commented that it is vital that the home environment, in the community, is part of continual assessment. They noted that clinical and personal needs change. Where necessary, it was pointed out that the areas, bedroom, bathroom, living room which

are being used daily, should be reviewed. The group confirmed that they had all participated in the interviews and confirmed that the data was being recorded and transcribed. One participant agreed to the use of her mind map diagram in the research as this captured her views of the MHRA process which was practiced in the workshop (Appendix 14). The group were shown the 5 noted themes in the level descriptors. They commented on this detail being a "useful bank of information" which HCPs could use in their MHRA assessments.

8.2.3 Client Narratives and Photographs

The narrative and the photographs that had been developed from the workshops were talked over. The group took a positive view of the narrative and commented on the effectiveness of the photographs. Some of the HCPs had used the narrative in handling plans since the workshops. They were aware of the benefits of noting down tasks and manouevres using equipment in an easy to follow step by step process. The participants commented that the photographs were a useful assessment and communication tool. "A picture paints a thousand words." They thought that a "portfolio of photographs is beneficial" in that they corresponded and sit alongside the narrative. A few of the participants mentioned that they "would definitely use this information."

Some of the group commented that "The picture shows how the bed should be profiled (Appendix 26-28). "This helps when the person is being hoisted or moved. Paid and family carers need to be shown how to use the equipment properly." Despite the photos the HCP mentioned that there "were still issues with not using the 45* approach with the hoists. (Appendices, 28-30). Questions were asked about the narrative and the photographs based on this outcome from the workshops. The group identified that they had seen the photographs and the narrative. The group members explained that the narrative and the photographs are of practical use and were a direct result of the workshops. The narrative has been discussed by the key handlers in BAC and the information has been condensed into a working document to suit the needs of the COTs. They are aware of the full script. "If we hadn't done the key handler course then your training would have certainly prompted us to think that this type of systems approach to MHRA was necessary."

The participants commented that the information in the supporting notes using the narrative was aimed at carers so they didn't want it to be "overwhelming in the detail." Equally they did not want the details of the narrative just to be a paper task. Instead it needed "to be workable for the carers and other people to use." Interestingly the participants noted that "Now carers come to us (HCPs) looking for them." (that is the detailed notes based on the narrative). (Appendix 25). The participants pointed out that "We use photographs in other areas of healthcare work when it is appropriate." They noted, "we obtain permission from the clients to allow this to happen." They mentioned, "that it forms a process." in the work that is now being done in BAC. The photographs with the narrative are very helpful in explaining key moves and positions of the client in relation to the way that the equipment is used. For example, approaching a chair at an angle or side on with a hoist. The reasoning for this is covered in the narrative but links to correct postural positioning of a client into a tilt in space chair. There was discussion on using the exact manufacturers' equipment that is in a client's house in the photographs. There was further comment on the need to attach the instructions for use for each item of equipment and to link this to the narrative that is provided for the MHRA. It was noted that this exercise should be for each person being assessed. "Your narrative is useful, we absolutely see the value of the narrative." The narrative blends in with the photographs and from this a picture is built up of how to move and handle a Jack and a Jenny case. It applies and generalises to other people needing Assistive Technology equipment as part of their care package in a community setting. The photographs are a "very visual thing. It helps in understanding what is going on."

8.2.4 Implications

Knowledge, Skills, Clinical Reasoning, Competence.
The participants mentioned about the presentation session where they had to talk aloud about the hazards and why they had scored the risks in a certain way. They confirmed that the group work allowed for an open discussion where they said what they thought and explained to each other their thought processes. This was based on their knowledge and skills in dealing with complex moving and handling clients in the community. They found the training environment conducive to learning. It was

good not to be in a classroom environment although they were aware of the academic and practical reasons for the workshops. They were able to speak freely as this was a non- clinical setting but where clinical reasoning was being discussed.

The participants confirmed that they were familiar with the five steps of risk assessment from their moving and handling training. They identified that there were hazards and risks associated with Jack and Jenny. They confirmed that they were aware and used the SMHPIS (2011) colour matrix for evaluating risk. (Appendix 1). We talked about the aims and objectives of the workshops and the completion of the forms detailing the hazards and risks. The HCPs confirmed that they had participated in thinking aloud when they were presenting their findings on the two case studies to each other. They were familiar with the answers that had been handed out at the end of the sessions. The group then discussed the two tables showing the hazards and the coloured ratings for risk based on the SMHPIS (2011).

The group moved the discussion to their clinical reasoning when carrying out MHRA. The HCPs were asked if they were aware of the Levett Jones CRC? Initially there was limited comment on the cycle. The question about Clinical Reasoning was asked in a different way. What are the clinical factors you use to identify the needs of a client with complex needs? What do you need to do now and what action do you need to take next in assessing the client. Do you use your Clinical Reasoning to gather relevant data, analyse this and then form a view on the clinical issues around a client? How could you looking at the Benner scale from novice to expert. How could a Novice deal with this? The group then discussed their clinical reasoning with reference to the Clinical Reasoning Cycle when doing a MHRA. They commented on the patient's needs based on their condition. The HCPs would look for issues/cues affecting the patient when they are being moved and handled. The action taken to meet these needs was talked over as part of the risk decision making process. How this information was noted and communicated was part of the conversation. The group pointed out that in doing their assessment there are factors/cues/comments that come out in their questioning that allows the professional to consider the clinical and non- clinical factors appropriate to the person's care.

The group commented that people (HCPs) learn at different speeds and some people may be quicker at learning compared to others. They mentioned that as a novice a step by step approach is important so that the person can follow what others have agreed as the right way and therefore measure themselves against these steps before they move on. If you are a competent or an expert "then it just comes intuitively." "It is so ingrained in your mind that you just do it without necessarily just going through all the steps." The expert needs the novice and the novice needs the expert. There was a discussion around measuring competency. The HCPs pointed out that they were aware of NHS competency frameworks. They commented that the Social Work Community OT service do not have such frameworks. It is therefore difficult to evaluate the competency of HCPs who are working with the same client but may approach their moving and handling of the person and the risk assessment process from a different perspective. One senior practitioner noted that "it is not to say that HCPs can't move between Novice to Competent to Expert. It is dependent on the regular use of techniques and practices as if you are not using these skills regularly then you can forget parts. You never lose the basic details. When new equipment comes out it is sometimes that you know how to hoist a person but that they have a new seat and you need to know how this works so that you can do the moving and handling process correctly. Others at the visits including the clients and other professionals expect you to know as the OT or the moving and handling key worker how this all comes together. "

One member of the team was not a key handler so she mentioned that she would go with one of her senior colleagues if she was going on a complex moving and handling visit to a Jack or a Jenny. The fact that a key handler comes out on the visit means that this HCP learns what to do from her senior and also gathers experience as she deals with her complex client. "Sometimes I like the reassurance of my senior." "It is a confidence thing." As HCPs there are peer competency tests undertaken on staff to make sure that they are up to speed on their Moving and Handling. If someone comes out of this assessment by a fellow HCP and is deemed as not being competent at what they are doing then there are additional measures and training that can be done." The HCPs mentioned that such a system should "keep people up to speed."

The group mentioned that staff are brought together at meetings then it tends to be as a problem solving session at which issues are raised and answers are sought. They go through scenarios where people have real problems and then see if solutions can be found that they can then go back to their clients and try with them. This type of approach can escalate if the issues are not being solved. The HCPs pointed out about their professional qualifications, their registration with HCPC and the duty of care and the professional standards of the College of OTs. The RCN has a similar approach but they follow the agenda for change and as such there is a clear competency structure in place to assess nurses and HCPs in the NHS against set standards. There is the NHS framework which links into the staff grading. There are professional guidelines on practice through professional bodies, the RCN and the HCPC, for professions allied to medicine. The NHS is implementing a validation and evidence based system and the development of the professional practitioner. There are NHS competencies for community nurses. NMC (National Midwifery Council). For one participant, "from a nursing perspective that all round approach to nursing care has been lost as carers do many of the social care tasks that were once the job of the District Nurse. Some nurses remember the older way and still get involved. Others don't."

The group pointed out that quite often where there is a community team or an OT is in a practice with a DN then there is a request for a joint visit and so an OT and DN problem solve and deal with the moving and handling of the patient. "Two minds are better than one approach." Sometimes the DN has a longer term relationship with some clients so can act as the person introducing the OT into the house and can assist with the MH issues that present. This is Joint working. They commented that "it is easier for the patient." It is "a lot calmer." Where there is the potential for any conflict the two professionals can help to break down any barriers."

For some participants they commented on the Plan, Do, Say, Act method of assessing the clinical and practical factors around the MHRA for a client. Others mentioned that the Clinical Reasoning for Jack and Jenny relate to a range of problems because of their medical issues. The HCPs act on these clinical issues that are presenting. They agreed that the hazards and the associated risks noted about Jack and Jenny were accurate.

8.2.4 Implications

Education, Training

The participants believed that it is important to "constantly keep yourself up to date." They felt that the training, workshops, thinking aloud and reporting on the group views on Jack and Jenny is important to learning and gaining knowledge. They commented that if they add the knowledge to their existing experience then the outcome is a positive approach to MHRA. The participants commented that they found the workshops to be informative and beneficial. The group mentioned that as front line professionals they are still only given half a days' training on dealing with the moving and handling needs of plus size people like Jenny. They don't think that this is "enough to be confident to deal with all the issues." concerning this group of clients. Their existing training does not incorporate to the same level and depth what was undertaken as the core content of the workshops. There is the five days course and then the two days refresher with a test at the end of the taught course. They believed that the "outcomes from the workshop in an organised format could be used by the professionals in their work." Any meeting at the level of these moving and handling workshops "triggers professionals into thinking in detail about MHRA."

We discussed the concept of Personas. The example of the Arjo Mobility gallery was discussed. The Silhouettes (Persona figures and narrative) were shown and talked about in relation to the four people in the case studies. There was not a lot of awareness of Personas. The group discussed the guidelines for making up a Persona. For example, take a Jack Persona. The HCP could read the persona before going to visit /assess a client and link it to the themes and the Level Descriptors. It is important to gather information to help form a view of the client's needs. The participants followed this concept and "liked the idea." They believed that the use of this type of information would be useful. They all mentioned that they would like to see more of this detail as part of the research thesis. Would the use of Persona's help you/ benefit you from a professional/training/knowledge perspective? "Good idea. Good for building up experience**."** Also, if you don't have experience of that type of condition then this idea would be useful and helpful. "As a member of staff, it would be good to use the details in the Personas to refresh key facts before you go out and face the person again."

We looked at Case Based Reasoning. The group were shown the Taylor (2007) diagram. They could see how this theme generalised and applied to the research programme. They commented that there could be a Gallery, a Library of information which along with the themes and the level descriptors and backed with clinical reasoning could be used by HCPs. The participants commented that this type of process and procedure would need to fit into the existing systems in BAC and NHS. They pointed out that there are "organisational differences." A few examples were given of existing text books that use this library style process. The publications act as prompts for the professional and are very helpful key indicators. "This is why this happens and that is how the person may react and this is what is the best way to approach and deal with such problems." The HCPs pointed out that since the research had been undertaken BAC has opened Hillylands, (www.bonaccordcare.org/hillylands-independent-living-centre-occupational- therapy) as a resource/assessment centre. HCPs can take clients to the centre and discuss, demonstrate and assess them for their moving and handling needs and potentially map out what they require in terms of equipment based on what the assessment indicates. It is also a good training area for all staff who can visit, view and adjust the equipment and discuss their issues with other HCPs without it being in a client's house. The group agreed that this approach to assessment is very similar to the workshops scenarios and the comments made by staff at the think aloud sessions.

Moving and Handling updates with staff are carried out at Hillylands so the centre is a good focal point for all MH events and updates. "You would use this equipment in such and such a situation and relate it back to clinical issues." "I have got someone with this condition and this problem and how do I get them into this chair." The Centre allows HCPs to bring real examples to the meeting and look to problem solve. To assist each other with complex cases there is now the structure in BAC "to work it (the assessment) through as a group."

8.2.4 Implications
IT Communication
With the content of the workshops along with the narrative and the photographs the participants thought that they were better informed about MHRA after the workshops.

However, there is a lack of inter connected IT to allow the sharing of this data across services. They were interested in the idea of being able to log into a person's own pc and input relevant data into a programme. The participants commented on the use of a MHRA in a home that is stored on the client's pc and with support notes. We talked about using the coloured chart for Jenny on a pc which would show the hazards and the risks associated with these hazards. This type of system could possibly be piloted and the outcomes discussed further. There are clearly resources required to make such a system like this work in the community.

Although the IT exists, the resources to develop it are not available. The HCPs commented that, "Yes, there are problems with communicating within the organisation." What we can do with emails is limited. The participants pointed out that they are not able to access each others' (NHS and SW) IT systems relating to the same client. There is not a reliable IT system. Within their existing IT there are restrictions in obtaining and sending photographs similar to the ones used in the workshops. "This would have an impact on communicating details for MHRA."

There are other ways to store this data that are under review. The CBR library was positively received as well as the use of the personas. The groups were not aware of this detail but when it was explained they could see the positive benefits of it linking to the case studies, clinical reasoning and MHRA. The group would be interested to learn more about these systems of work as they felt sure that they could learn from them and potentially use them in their assessments. They commented that the generalisability of the Personas could be applied across the range of complex clients with which they are all dealing. The Personas are an effective base line for professionals to start their assessment on clients presenting with the four identified medical conditions.

We discussed the use and access to IT in someone's home. There was a comment about some trials in other parts of the UK related to using the IT in a person's home to help with the nursing notes and the care plans for the clients. The group thought that this would be a really positive way of communicating information and sharing relevant details with clients and other HCPs. The Guldmann ceiling track hoist equipment was discussed and the benefits of viewing the products on an interactive

web page. This explains how users can be "walked through" a room using ceiling track hoisting equipment. This information can then be used to inform the client and can be noted in the MHRA. The Oxford Sling Selector Guide was another example of IT which assisted in identifying a suitable sling for a client. The detail could then be noted in the MHRA. The HCPs discussed the use of Video calls/Skype as a method of communicating with clients and carers about the use of equipment and access to instructions. Again, this IT exists but the processes and permission/ security for using it are not in place in the areas where the research was undertaken.

8.2.4 Implications

Community, Integration, Acute,

The participants were aware that Integration in the community is happening. They were not involved in discussions but did know that at a senior level the management teams were coming together. As HCPs working in the community they confirmed that they are operating regularly in isolation to their NHS colleagues. There are handover details. They mentioned that information can be obtained from their acute sector colleagues on patients moving from the acute setting to their care in the community. They verified that there is not a consistent process for dealing with MHRA from acute to community. There are areas "where it does work and that is a benefit." They are unsure what integration will mean for them as practitioners working with clients in their own homes. They agreed they had a general awareness of the concept of integration but would wait to see what their organisational approach was going to be as the process of bringing the NHS and SW closer together developed. They did verify the research findings that the NHS and SW do not routinely share the details and assessment findings on MHRA.

In the acute and community sectors there is evidence of services integrating and working together in the NHS Grampian area. There are some good examples of where the acute sector has handed over relevant MH details to community staff. However, this process is not always consistent when patients are being discharged to the community. There was some discussion about a handling plan that NHS Grampian had developed to link the acute to the community and the community to the acute. Although this handling plan had been launched with the services during the time of the research programme it was not being routinely used by the HCPs.

The model was shown to explain the research. How efficient is integration? The situation was described where four HCPs were on a visit to see the same client. What does that say to the person lying on the bed? "it can be quite intimidating to the person." "Too many professionals; that can look to the person that they are being backed into a corner with no real say in their care." It is not easy to introduce new ideas to clients about their moving and handling care if too many people are present. An example was given of the change from an active to a passive hoist where all the carers were all in the same room. At the same time the client felt intimidated at a time where change was being suggested. This was not an easy discussion and was made worse by the numbers of people present. The OT asked people to leave. This diffused the situation. It was felt by the group that one risk assessment based on the five steps is what is required with people inputting into the assessment. Otherwise there is a lot of duplication. If there are very specific issues then these issues need to be understood by everyone and the Hazards Identified, Risks Evaluated, outcomes and communication need to be followed. The more Risk Assessments that are involved the less likely that the work will be done properly. It is trying to find a balance when dealing with complex cases. For the participants the HCPs need to decide who should be involved in the person's MHRA. They believed that "one shared MHRA is all that is required."

8.3 Findings from Senior HCP Facilitators employed by CEC and NHS Grampian

This section reports the findings from one-to-one Participant Validation Interviews with senior HCPs employed by CEC and NHS Grampian who had acted as workshop facilitators. Using the data from the semi-structured interviews, these participants had been classified as being at the Expert stage of MHRA Clinical Reasoning.

8.3.1 Model and Themes

Participants indicated that they understood how the research model incorporates risk assessment, clinical reasoning, knowledge, skills, experience, education training, competence and review. An overview was given of the research programme which included the workshops, think aloud sessions and their outcomes, themes, interviews, model, level descriptors, validation and discussion. The two HCP facilitators from different parts of Scotland validated their views on the research programme.

There is a close working link between NHS Grampian (NHS G) and the Social Work Department OTs now employed by Bon Accord Care (BAC) when considering the moving and handling of people and also the manual handling of loads in the community setting. The two different risk management models were discussed that work within the two organisations. For the facilitator, she hoped that Risk Management " was coming from the same perspective." She was of the opinion that both organisations were fundamentally talking in the same language around moving and handling.

She commented that the risk assessment in SW used the TILE (O) approach to risk assessment. The NHS start with the TILE (O) approach but are more focussed on the clinical part…."this person is in pain, this person is confused." "Therefore our moving and handling risk assessment has been taken the assessment to a different level."

We spoke briefly about the New Zealand and Australian Models of Risk, Change 21st Century and the Thomsett model. (HOP6). We discussed the predominantly quantitative approach to Risk Assessment routinely found in the NHS and the qualitative methods adopted by the SW department. When the Australian standards were upgraded NHS Grampian did not adopt the revised Australian Model. In the NHS "most people have the quantitative approach to risk assessment in their minds when doing the risk assessment."

The PVI was explained. It was noted that PVIs were designed to validate, to put a "face" on the research that was carried out using HCPs who are working in the community setting and dealing with clients with clinical needs all requiring relevant and effective MHRAs. The qualitative aspects of the research and thematic analysis were discussed. How individual HCPs do their job and undertake their specific approach to risk assessment was considered. Competence frameworks and the Agenda for Change and the grades for an OT were discussed. It was noted that Occupational Therapists are employed in both NHS and SW sectors. They have access to the same professional body (COT) and are registered with the HCPC. District/community nurses work for the NHS and are registered with the RCN.

The process of the research was the training workshops followed by semi structured interviews. The current meeting was about validating the outcomes of these other research related sessions. It was noted that in the interviews that the HCPs would be considering the role of clinical reasoning and their decision making skills as individual HCPs. The groups would be examining the relevance of the psychometric paradigm in their assessments. The Individual HCPs perception of hazards and risk, their risk decision making process and the way in which HCPs communicate their MHRA to clients, professionals and carers was talked over. The aspects of the lay versus the expert person was touched upon in the discussions.

8.3.2 Level Descriptors

The facilitator was asked if she recognised the themes that were running through the client group. The 5 themes were referred to. The facilitator having looked at the themes commented that "These are the five things that I would certainly be looking for as a manager." in a MHRA in the community. As a senior HCP the facilitator mentioned that she is looking at having this level of detail in the risk assessment from her colleagues whom she supervises. She commented that if this information is not in the MHRA then the senior/supervisor needs to go back and have that discussion with the individual HCP. "This level of detail is needed in the Risk Assessment process and paperwork."

The discussion moved to considering the outcomes of the think aloud sessions at the workshops and the way in which the data gathered influenced the questions asked at the semi structured interviews. The facilitator commented on the themes from the workshop and agreed that this information had come through at the practical sessions in the workshop areas as well as at the presentations. She commented that she would have expected the theme information to be presented in different ways by the groups but the aggregate situation was represented by what had been noted and presented in the research table (7.3).

In relation to this discussion the facilitator was shown the level descriptors and asked if these applied to the training workshops and interviews. She took time to read the descriptors and commented that they "certainly would apply in the two cases." She asked for a copy as she could use them immediately. The Level Descriptors could be used "as a knowledge and skills development perspective. The level descriptors "would as shown be useful." On a Learning Development perspective the level descriptors would "allow us to target the training in a more effective way." She felt that the Seniors HCPs in the Council could "use the Level Descriptors to relate training to what happens in practice" as shown in the workshop forms. At present the training just focusses on the five steps to risk assessment. The Level Descriptors would allow the five steps along with CR to expand the education and training of the HCPs and incorporate the themes. The facilitator was shown the research model to explain all these sections. It was noted that the level descriptors "could be expanded upon by HCPs, they are descriptive and do form part of the cyclical process of MHRA." She did comment that it flowed and highlighted that this is a route that MHRA should take in community work.

She was aware that there were notes taken at the think aloud sessions. The facilitator was shown the Level Descriptor tables. She confirmed that this detail would be really useful in setting a base line for dealing with a Jack or Jenny case. Although she couldn't comment on the other two cases if the same detail was in them then in principal then this should work for the CVA and the CP cases studies. She agreed that this generic document was developed because of the work that had been undertaken. "It is a model that I really like." "I wish we had the resources to produce more of that detail ourselves." Risk Perception /Risk Decision Making /Risk Communication themes came out of the workshops and the interviews. The themes

were then shown and discussed. This is what the Novice /Competent /Expert thought of each theme. "I think that these themes and the descriptors would be superb. They would be a real benefit to the managers and the moving and handling teams."

The facilitator mentioned that as a training document and from an individual professional's assessment point of view this level of detail could be used with staff . This could be at different stages of their professional development. The themes for Jack and Jenny would "give an indication of what is found in the community and what would work, for example, for an obese person living in the community" . Would this work now?
"Yes, this system would work across all the agencies." We discussed the five themes that had emerged from the collected research data. As managers of people and processes within their organisations the facilitators were interested to explore these themes and to comment on the outcomes. The facilitator and the pilot group chose the two case studies that represented the most common scenarios with which community therapists would be presented; a progressive neurological condition (MS), in Jack's case he has Multiple Sclerosis and Jenny who is a plus sized lady with comorbidities. HCPs are dealing with an increased number of clients with such complex conditions in community settings. There are "lots of neuro progressive cases in the community. Those were the two pressing examples at the time." The facilitator was asked if she would see Jack and Jenny generalising to other cases and also being relevant ? She commented that "the principles in the Jack case study are relevant and apply to someone with Parkinsons, MND and other progressive neurological conditions, so that is why we went for Jack." We didn't go for specific conditions, we kept things general but named a condition so that people attending the courses could identify with the condition and comment on the hazards and the risks." "The presenting issues in the case study were broader than just MS for Jack." Jenny was different as she had so many issues that any one of her related conditions could be a MHRA data set on its own.

The facilitator commented on the increasing number of complex cases being dealt with in the community. People are living longer with a range of medical conditions which are being managed at home. The progressive neurological conditions are

spread over different diagnoses all presenting with a range of challenges. For Jack there is the spasm, the aggression, the need for equipment but the unwillingness to accept it as part of his care. In NHS Grampian the facilitator discussed the research that has been carried out on plus size people (Murray 2011). Jenny is a common type of patient seen in the acute and then into the community. The environment in most homes "doesn't cope with plus size people." The equipment footprint along with the complexity of the condition/s is an on- going challenge. The facilitator agreed that the two cases generalised to other complex conditions.

Community settings and the home environment is a reality for HCPs. There is definitely "complexity in the community." The facilitator confirmed that she now managed a team of HCPs working in the community. She talked about the challenges of working in a person's home. There are many different environmental factors to consider. It is the person's home and not a ward/institutional setting. There needs to be respect for the home. There is the layout of the home and whether it is suitable for the person living with a condition and being cared for in this setting. If as a result of the MHRA items of equipment are required then can these fit into the home and be used by the person and any carers safely and effectively. The mapping out of a room and the potential for changes to the room or choosing another room in the house and converting this was talked over. The facilitator mentioned the outcomes from Jenny's case study. There is the dynamic of the family and the relationship with family, friends and carers to consider when discussing the person's home environment. This was relevant to Jack and what he would or would not allow in his own home. Such interpersonal challenges need to be addressed by the HCPs as part of the overall assessment of need of the client. We talked about structural change to accommodate larger items of equipment and the recognition that the client may need several products to help in their care. The photographs at the training workshops provided the necessary evidence. The facilitator mentioned that it is difficult to try and visualise all the equipment needed in one room. She agreed that the marking out of an empty room and planning the layout is a useful exercise. This was discussed at the workshops and commented upon by several of the participating groups.

NHS Grampian looked at the process of transferring patient details from the acute to community setting. One development was the use of the NHS Grampian Moving and Handling Support Plan (MHSP). As an organisation they were clear that the MHSP was not a Risk Assessment. The clinical areas in NHS Grampian acute will have a generic Moving and Handling plan and will apply this to the patients who need a MHRA. The generic Risk Assessments are in place and should be used by ward staff. The patient should have a personalised MHSP. This is the "how to do." What to do it with….this type of sling, this type of standing hoist. This document will detail each different activity for which the person will need support or just mentioning their level of independence." The intention was for the form to follow the patient home so that when the carers or BAC staff (as the community OT), or the NHS DN came to assess the person at home the necessary background information was available on the discharge details. Currently a new assessment needs to take place when a person goes home as it is a "different environment" to the acute setting. BAC have taken the individual elements of daily living….there are about 12 factors and they are using these in a personalised form rather than a new form. BAC are using this detail nearly all the time. Unfortunately, NHS Grampian are not routinely sending the forms out. "That is a big disappointment and a big gap." This can in part be attributed to the reduction in training staff who would have "policed" this work. The training staff are now focussed in a classroom and can't do this type of new and innovative work which they did before in support of the classroom activities. "Going out and supporting people and following up afterwards." Although the form is used in the classroom, how to complete it and its relevance there is no follow through in certain areas.

8.3.3 Client Narratives and Photographs

At the thinking aloud session the participants used the photographs to explain their MHRA, Clinical Reasoning and recommendations to each other and learn from what each group had to say about the clients. This information was noted and used to plot the responses. The details were similar to the pilot group as the lowest common denominator was the fact that all the participants were HCPs and had also undertaken some form of MHRA training as part of their job function. "They described what went on to each other." The facilitator noted that "Healthcare

Professionals hadn't thought about using photographs in a risk assessment before…..or not routinely." Some HCPs used the photographs as a "learning tool so that they (HCPs) could see themselves in the equipment."

The narrative and the photographs were shown (Appendix 25-30) to the facilitator and asked if this process and potential system of work fitted with this information. It was agreed that it did. The "development of data" for use in the risk assessments came from the discussion around the benefits of photographs and a supporting general narrative. The facilitator noted that after the workshops the HCPs started to have regular "photographs in handling plans to allow carers to follow procedures for using hoisting equipment." One facilitator had been involved in taking some of the photographs in this thesis and so was aware of the input from the HCPs in the workshops. She commented that photographs are something specific to a person. "It becomes a bank which can be used and so (the HCPs) don't have to start from scratch with everyone new that you/they are working with." We talked over the link into Personas and Case Based Reasoning. The facilitator commented that the picture of the bed and the narrative have been very useful. It is a good descriptor of the processes to follow and includes the equipment without the person in it. A question was asked, "Has this narrative and the photographs made any difference to the way people work?" "Yes, the participants are positively more aware of how you identify hazards and risks." The OT participants are "clearer on what is a hazard and what constitutes the associated risk." The participants have had discussions with other HCPs and families on moving and handling and they are reporting as having the confidence to articulate the necessary information and then going on to say how they are going to manage the different community situations. Handling Plans are more consistently completed with step by step details on how to move and handle the clients. The use of images to match this information are important. The HCPs reported more confidence and awareness in dealing with moving and handling issues like Jack and Jenny. They had commented to their seniors that "the practical aspects helped them in their moving and handling work." The facilitator mentioned that the Council have refined their moving and handling training to acknowledge the work at the workshops. She continued that if out of this and the ACC/BAC workshops there came a revised handling plan then that would be important progress. A Handling Plan that follows people around is a great idea. It is done with

people with dementia. The facilitator signposted the "This is me document." (www.alzheimers.org.uk) This is a tool that people living with dementia can complete and use to inform HCPs about their needs, interests, preferences. Such a document that goes with people with the condition instructs people with whom the person is interacting that they need assistance and helps with certain facts in their daily routines. For the facilitator, this type of document for people living with dementia offers HCPs, carers/families a way in which to communicate with the person living with dementia. This is what settles the person, this is how to deal with the person…." Why don't we have this with moving and handling?" For the facilitator, we have all the relevant details so that equipment meets the need and links to the care package that is required. The risks are higher if this level of detail is not noted. "That handling plan idea would be great." Referring to NHS Grampian plan.

From the workshops the discussion looked at Jack and Jenny, David and Janice. The pictures of how to use the equipment was considered. The facilitator commented that the OT department in ARI NHS Grampian does use a picture process to assist with care when a client is going from acute to the community. The facilitator was shown the photographs and the narrative that had been developed from the workshops. She identified and confirmed that the details were known to her and were useful. She pointed out that there had been "Quite a degree of success, particularly with amputees" using photographs and a narrative system. "I think that it is particularly useful when you have private agencies delivering care because we don't know the level of training that they have." "With the private agencies they don't always know and have an understanding of conditions, comorbidities or risk." "Making it simple like that reduces any ambiguity." That is the photos and narratives. The facilitator agreed that the photographs and the narrative could be easily adapted to fit into the care plans for clients staying in the community. She pointed out that this information would need to reflect the equipment in the house and the way in which it should be used. Detailed instructions are important. A brief and descriptive working document with appropriate photographs can help focus on the correct procedures and equipment.

Knowledge, Skills, Clinical Reasoning Competence

The competency of the therapists was talked over in line with the Benner stages. This was Novice, Competent and Expert. The facilitator commented that at the outset of the research it was intended to offer the training sessions to the NHS and Social Work HCP staff. It was acknowledged by the facilitator that joint working was an objective of both organisations. However, staff are from different organisations with different processes and procedures for assessing and engaging in the activities around Moving and Handling of people. Grading of staff, competency measures and outcomes differ. The discussion with the facilitator noted that the objectives of the research whilst acknowledging these differences could still allow engagement with HCPs from different organisation as it was their perception of risk, their risk decision making and communication in relation to complex clinical cases in the community that was under discussion and review. The facilitator mentioned that they (HCPs) all had knowledge of moving and handling. She understood that this research work was looking at HCPs utilising this knowledge and experience in relation to the two case studies. It was pointed out that this thesis was being structured as a qualitative research design with thematic analysis. The grading in social work for the facilitator was straightforward to explain. A member of staff was employed and worked as a COT. They could become a senior but there was no graded career choice like the NHS and the staffing grades based on the Agenda for Change.

We talked about Benner scales. The facilitator understood the different levels but she didn't believe that she could allocate staff to each stage of the Benner scale. She believed that a novice, competent and expert stage was relevant and straightforward in organising the HCPs who were asked to participate in the workshops. There are not "specialist OTs" in the community in local authority. People may be experienced because of education, a course or a genuine interest in the subject. HCPs in Local Authority community work are not banded according to anything. She commented that in Local Authority there is one grade of COT to cover all OTs. Not like the NHS agenda for change. "It is the length of time the person has worked for the organisation and not the level of skills that the HCP has developed that is measured." The facilitator believed that the three levels at the research were a

good indicator of peoples' competency levels and allowed the research work to flow without labelling participants. She did mention that HCPs are supported and supervised in their work. They are members of the HCPC which regulates them and are members of the College of Occupational Therapists. All these regulators expect the individual therapists to comply with their duty of care, their professional standards and their commitment to continuing professional development (CPD). We did discuss the use of the Benner scale. The facilitator agreed that it would be ideal to have this step by step process as part of measuring competencies of HCP across different areas of work. The resources are not there to achieve this. She then went on to describe an example of moving and handling competency.

The example that was given was of a joint visit that the facilitator had just discussed in support and supervision with a colleague. The HCP at the meeting has 20 years' experience as an OT but still sees herself as a novice in terms of moving and handling clients. The facilitator as a senior practitioner needed to become involved with her colleague's moving and handling work. She had offered support and help to her colleague to allow her to deal with the complexities of the case and to work with her on her Clinical Reasoning around the MHRA. The facilitator felt that she could use the Level descriptors to offer her colleague an insight into the relevant areas of work she needed to follow. The facilitator commented that the themes and the incorporation of these themes into the level descriptors and the MHRA process was a structured and relevant approach to deal with this specific client's needs. The actual case was not discussed and so no outcomes could be noted

Non Analytical Reasoning was discussed and the intuitive way that people with experience deal with clients and their clinical needs. She mentioned about the Novice needing a step by step approach right up to the way in which Experts just seem to know what is right, what to do and if they are in doubt how to access the right information to deal with any issues. The facilitator mentioned that she was aware that this programme was Qualitative research and that the themes are relevant to the work at the workshops and coming out of the interviews. What has been shown "feels like it fits." It is what is happening in practice in the community.

For the facilitator "the competent person is a controller of factors." She confirmed that she was aware of the Benner Model and the scale of Novice to Expert. She noted that when professionals are assessing staff and looking at their skills in moving and handling practice they have a traffic lights system of approval. Staff are assessed in the classroom and if they are unsafe it is clearly red and that goes back to their manager. Most people are sitting at orange and yellow. "Interestingly compare this to FIM (Functional Independence Measurement) and who decides one grade over another?"

The facilitator mentioned about the NHS Knowledge and Skills Framework and the Agenda for Change programme. She highlighted that this is in operation in the NHS but not in the SW/BAC. She commented that this makes it difficult to measure a person's competency as without a scale and a set of guidance notes "much of this NHS appraisal led approach is going to be "down to individual experience and perception." of what the person can/cannot do. The facilitator was aware that we had used three levels at the workshops and the interviews and that the facilitators had graded the staff who attended. She mentioned that the training for this research had been looking at the individual HCP and their role in moving and handling. She was aware that the participants had worked in groups and had presented their findings at the end of each workshop. The facilitator pointed out that NHS Grampian in the acute setting have this system of work. She commented that because there are key handlers in each of the clinical areas supporting their peers these HCPs are thought of by the MH teams at an intermediate grade of knowledge and experience. She was of the opinion that this experience can be passed on by working with colleagues and assisting them in the moving and handling techniques. They are not novice or expert. "But within that one category of key handler we (NHS G) have found vast differences in peoples' competencies." The facilitator commented that experienced people in her organisation tend to "do things intuitively" when dealing with clients. The facilitator looked at the tables on Risk Perception /Risk Decision Making /Risk Communication and agreed that the Level descriptors were relevant to the community. They could be used by clinical and possibly non clinical staff to assess moving and handling situations. The detail in the Level Descriptors could potentially be used by a trained and knowledgeable Health and Safety Adviser, a Risk Manager. She commented that it is written in a language that translates to those professionally trained to carry

out Risk Assessment. We talked about an IOSH trained person. " It goes a long way to bridge a gap between the HCPs professionals working with patient/clients and professionals doing Risk Assessments. (Health and Safety and Risk Managers).

8.3.4 Implications

Education, Training

The format of the training sessions was talked over. The agenda that was used for the pilot study day (Appendices 3 and 4) was discussed along with the relevant duty of care details and the role of the community HCPs in assessing clients. The CEC risk assessment format for MHRA in the community was used and the relevant permission was obtained from the Council to adopt their paperwork and system of work. The agenda for the pilot meeting was discussed and the facilitator agreed that the forms were correct and relevant to the study days. The pilot list of hazards was looked over and the facilitator confirmed that the detail noted was accurate. She also confirmed that the SMHPIS (2011) colour coded matrix (Appendix 1) was the version used to evaluate the risks. The facilitator verified that the training programme was accurate and had been used with all the groups. There had been evaluation forms filled out which had provided useful and relevant feedback on the workshop sessions. She talked about the workshops and the hazards and risks identified and evaluated by the teams. This was a useful exercise as it identified the correct use of hazard and risk. It also allowed the HCPs the time to ask questions and discuss with each other the importance of the MHRA and the provision of AT equipment. The facilitator pointed out that there was not a lot of current research or information on MHRA in the community which HCPs could use.

For the last five years NHS have been looking at the PDSA cycles. Plan, Do, Study Act, Process. All staff are encouraged to look at their care in terms of PDSA. The facilitator noted that some NHS staff participated in the workshops and the interviews along with their community OT colleagues. She was aware that a sample group would be interviewed as part of the participant validation interviews. In the last two years the moving and handling programme had been introduced to ACC/BAC and other agencies. This means the same type of training is in place across sectors. Albeit the number of staff doing the training has been cut and the classroom activities are restricted due to time constraints. "The programme of training is exactly

the same." The training is delivered by staff in their organisations or a mixture of both their own staff and NHS G. (BAC, NHS Aberdeenshire Council).The facilitator identified that she knew what a Persona actually meant and could speak about the Arjo Huntleigh Mobility Gallery.

She was not aware of the case based reasoning study. We discussed the cycle and the library of information. The facilitator talked about Jack as a typical neurological condition. It is possible that groups of staff could be given a library of detail that would be relevant to their work in dealing with such a case. The level descriptors would assist in this process and she believed that this would assist staff at whatever level of competency that they were at to understand how to deal with a case like Jack. She agreed that this library would be a useful point of reference for HCP staff. "It would be really useful." The training is structured to deliver a certain programme so it is not delivered with one person in mind. The classroom training needs to cover more than that. "we don't have the luxury of saying here is a course for OTs, community, theatres." There are exceptions and specific courses can be run. So the workshops was a new way of doing the training that was relevant and people learned from the structure and the content. Also in a classroom setting there is "quite a mix" of people from different sectors of the organisation so a more general approach to training is offered and delivered. The facilitator commented that thinking out loud about this issue, it may be best to say at the start of the training that it may be useful to discuss looking at the training with "this type of person." Always focussing on the person at home, here is the person, this is what they can/cannot do, "here are their comorbidities and everything that is being built on over the course of the day is with that person/ people in mind…it makes the training much more realistic." What we are endeavouring to do is make "it (the training) seamless." "In reality you have people from different agencies in someone's home." If we can reach the other agencies and standardise the training then "we feel that it provides a better environment for the person we are caring for."

The facilitator confirmed that the content of the case studies was discussed in Aberdeen between the social work department and NHS Grampian staff. To ensure continuity and a consistent approach to the research using the same cases and approaches the facilitator in NHS Grampian and ACC/BAC agreed to use the pilot

study details on Jack and Jenny followed by the two case studies. The facilitator confirmed that this was the approach that was taken. She did not consider the David and Janice case studies but was aware of them. The facilitator outlined that the moving of clients was an important part of the workshops. These sessions considered the use of assistive technology equipment based on the contents of the HCP's MHRA. For example, the use of a hoist to get a client from a height adjustable profiling bed into a posturally managed seating system. There was the realisation that other items of equipment are required in the care of clients living in the community.

The case studies were mentioned in the interview as a training tool along with the use of Personas. The facilitator was aware of the concept of Personas. She believed that " the Personas and library ideas would be a useful teaching method."   Question. Was there anything that came from the workshops that people are now doing/using in NHS Grampian and in the community? "The case study work was good. " The facilitator pointed out that it was giving very much a reality to individuals' activities, so, in the classroom here is where we do lying to sitting or other activities. The HCPs used the training but applied it to a real situation with the two case study candidates. The research helped to further the existing relationships between BAC staff and NHS Grampian on moving and handling practice and in the development of joint MHRAs. She confirmed that the two staff groups had worked well together at the workshops to problem solve the case studies. "there is now definitely a closer link there." For NHS Grampian the facilitator could see that BAC HCPs have moved further on the outcomes of the research workshops than the NHS. This is noted in their (BAC) systems of risk assessment and in their use of some of the workshop ideas and the narrative and photographs. In perspective there were more BAC HCPs at the workshops and interviews that those that attended from NHS Grampian. The facilitator noted that NHS Grampian staff are coming from different areas of work.

She believed that they are not as close and integrated as BAC staff. Also NHS perform a different role in the community. There is a difference between the DN role and that of the social work HCP and those who deliver social care. It is a "missed opportunity" as NHS could do a lot more work there to develop their staff and increase their presence. The facilitator noted that at meetings or speaking to HCPs

at BAC that they have "embraced the partnership working." She believed that the workshops may have brought HCPs together around the moving and handling of clients in the community. She commented that the integration of services may take this relationship forward.

8.3.4 Implications

IT Communication

The use of IT was discussed to record details from the MHRA which could be used in the notes of clients. The availability of tablets and laptops in peoples' own homes was talked over. The facilitator was asked if there was ever the possibility of having a programme on a person's own computer in their home which could be accessed and the MHRA filled out and stored. This would give access to other people caring for the client to access the data which had been compiled by the HCP dealing with the client's MHRA. She believed that this would be a good idea but would require client consent, involvement and the approval of the public bodies involved in advising the client on their healthcare needs. The use of equipment stored on memory sticks was discussed and access to on line details about the types of hoists, slings and the instructions and information on equipment was noted. For example, a ceiling track hoist (CTH). Like the manufacturers' web details there are generic web based information pages and then access to more sensitive data is password protected and restricted to authorised people. For the facilitator this communication approach made sense but she commented that it would need resources allocated to it to establish, maintain and improve on it as part of the monitoring and review of the client's moving and handling needs.

Risk communication is one of the weakest links." This is because of the size of the organisation and the number of professionals that are involved particularly in discharging a patient/client into the community. There are a number of opportunities for the communication to break down when so many professionals are involved in trying to get someone home. Potentially, there are too many HCPs involved sometimes in the MH input of a client.The facilitator mentioned that it would be beneficial if there was one document that contained all the relevant moving and handling details about the client. Professionals could update such a document as appropriate. The facilitator believed that this type of system is not beyond the

capabilities of the agencies involved in the person's care. Maybe communication would improve if the IT was appropriate across agencies and people could access the information on the client. "Historically there has been a reluctance to share information across organisations." This has been because of the law, confidentiality and sometimes it becomes too bureaucratic and organisations just close doors." Integration will maybe help but there are still barriers that need to be broken down." Some of this is because of breaches in data and organisations become very defensive over the sharing of data. The different organisations are not keen to allow others onto their data bases. Clearly the best way of sharing communications is electronically. You could see everyone interacting with the patient. This would be ideal. " I would like to see us get to that point."

8.3.4 Implications

Community, Integration, Acute,

Integration of services is happening at different levels. One facilitator noted that Social Work staff have taken a lead in moving and handling in the community and that their managers and practitioners play a greater role in the MHRA process and that there appears to be "less involvement from NHS. " She commented that "this is fine as that is one of our (SW) core skills." We have developed that." "We are really competent at it." Will that help at integration? Yes, a bit of sharing is needed from hospital to community. However, we need to do more here.

Would this research work from acute to community and community to acute? The facilitator commented that this case study workshop approach would be relevant within the hospital and the community. As much as it was written for the community it would work with the acute sector as well. The facilitator noted that the skill mix in a clinical area needs the resources to be in the appropriate place. The senior charge nurses in a ward can use this information to offer advice to a new start, a competent person and also reflect on the advice given by a senior to a novice or competent colleague. For the facilitator integration of the different services is coming together. She commented on integration meaning different things to different people.

8.4 Analysis and Summary of Participant Validation Interviews

A representative sample of semi-structured participants took part in the Participant Validation Interviews. There were 10 Community Occupational Therapists (5 from CEC and 5 from BAC and NHS Grampian), and one nurse from NHS Grampian. Roughly half of these 11 participants had been in a Jack workshop group, and the other half had been in a Jenny workshop group, and half of them had mixed work experience, and the other half were employed in a policy and procedure role. The two workshop facilitators were team managers at CEC and NHS Grampian, respectively and were at the expert grade. Participants indicated that the model (Figure 7.1) was a true reflection of the direction in which the professionals linked to each other in terms of knowledge and experience (Novice, Competent, Expert). Additionally, the model also cyclically integrated the level descriptors (Tables 7.6, 7.9 and 7.12) Risk Perception, Risk Decision Making and Risk Communication to show the importance of these concepts at each stage of a professionals' experiential development. The Participant Validation Interviews did not result in any changes to the model (Figure 7.1) or the Level Descriptors (Tables 7.6, 7.9, and 7.12) but did produce useful discussions about the theoretical and practical implications of the model. By returning to the participants for their opinions on the research topic this study has avoided the criticism of researcher overview and instead has focussed on obtaining individual's viewpoints about MHRA in community settings (Mays and Pope 2000). The PVI sessions allowed the research questions on MHRA, Community Setting and Clinical Reasoning to be broken down into elements which were discussed in detail by the participants. The outcomes from the workshops, themes and level descriptors were noted and the potential to assist the participating professionals in their clinical practice when dealing with clients with complex clinical conditions in the community setting.

Chapter 9 Discussion

9.1 Introduction

This chapter provides a discursive account of the research, by involving the three research questions, to advance the theoretical debate covered in the literature chapters 2,3,4. It refers back to the research questions on MHRA, Community Setting and Clinical Reasoning. It outlines what are the main substantive points which contribute to knowledge and which inform the arguments being made about the extent and ways that clinical reasoning is relevant when undertaking Manual Handling Risk Assessments. This research is set within the multidisciplinary study of risk management. In particular, the research considers the relevance and importance of clinical reasoning in the manual handling risk assessment process. This chapter will consider MHRA, the community, clinical reasoning and refer as part of the discussion the involvement of competency frameworks.

The discussion on MHRA is based on the HSE Five Steps to Risk Assessment and considers the TILE (O) method of assessment. This structured approach promotes the discussion on the identification of hazards and the management of the associated risks. It achieves this through the development of processes, policies and procedures and the use of safe systems of work in order to eliminate, substitute or control identified hazards and their associated evaluated risks. The MHRAs identified in this research, conducted mainly by HCPs, are being undertaken in peoples' homes in a range of community settings where the clients are presenting with complex clinical needs. The research discusses the role of the HCPs and their clinical reasoning around their client's specific moving and handling needs. It is recognised that the HCPs have a duty of care to their clients of which a MHRA may just be one particular part of their overall assessment of their care.

The research developed three questions drawing on as evidence the available details contained in the literature chapters. The outcome of this analysis is the proposed model which is presented in Chapter 5.

The Methodology adopted to investigate and discuss the proposed model is presented in Chapter 6 with Chapter 7 describing and formulating the empirical data

gathered at the pilot workshop, the workshops attended by the HCPs, the think aloud sessions and the validation interviews undertaken by some of the original participants. This research is presented as qualitative data collection with thematic analysis. Chapter 9 offers an overall discussion on the research with Chapter 10 concluding the debate which has considered to what extent and in what ways is clinical reasoning used by HCPs in the MHRA process in the community setting?

9.1.1. Investigating the relationship between MHRA, the Community Setting and Clinical Reasoning

The research has established that there is a legal context and precedent involved when undertaking risk assessments (MHSWR 1993, 2003), The Five Steps to Risk Assessment (HSE 2016) is a recognised universal method of undertaking risk assessment. In relation to this research and specifically dealing with manual handling tasks, the legislation refers to the Manual Handling Operations Regulations (MHOR 1992, 2004). The research has a community locus which has considered in Chapter 3 a person's home as the care setting. It recognises that the community is where a significant amount of care is now delivered. It highlights the importance of a person's home environment as the place where the greatest number of hazards with the highest evaluated risks, potentially exist in the delivery of this care. For consideration, are the packages of care that are available to meet the clinical care of a person. This detail recognises the importance of the delivery of care and the organisational and operational systems that need to be in place to safeguard the service user as well as the care giver. This chapter looks at how the care givers and the HCPs work together and considers the organisational routes that integration of services may have in the future care needs of clients in their own homes. Where a client is assessed by a competent person and the outcome of the MHRA based on the HCP's clinical reasoning dictates that there is a need for additional assistance in moving and handling a person, then the use of Assistive Technology may be identified as an appropriate way of managing the person's care. The equipment, for example, a hoist with sling, special height adjustable profiling bed, slides sheets and handling belts are a few of the items that may be required in the safe positioning, moving and transfer of a client as part of their daily activities. The clinical reasoning

behind the choice, use and operation of the Assistive Technology equipment is incorporated into the risk assessment by considering the tasks, the individuals doing these tasks, the person's weight and height, the environment and any other relevant factors that may assist in the safety of the person and the carers. To ensure that these care packages are managed in the community and that the needs and wellbeing of all are considered it is highlighted that the safe systems of work are based on the MHRA undertaken by the client's HCPs. It is suggested throughout the three research questions that in the it is the perceptions, decision making and communications skills of these HCPs using their clinical reasoning that are relevant factors in conducting and implementing these MHRAs in the community setting.

The first research question raised in this study is *'to what extent is the specific safety and risk management legislation used by professionals in the identification, investigation and explanation of hazards and the risk evaluation of these hazards in a manual handling task?'*

9.2 Risk Assessment and the use of MHRA

This first research question considers and discusses the importance of dynamic, generic and specific risk assessments in the workplace. The community setting is the workplace for professionals and carers working with a service user who requires assistance in being moved as part of their care needs.

Participants in the research were healthcare professionals who are qualified clinicians and who are involved in assessing the clinical needs of clients allocated to their caseload. It is argued, specific to this research, that these HCPs require appropriate education and a level of knowledge and work experience to ensure that they can undertake effective MHRAs. It is suggested that they have a dual role in the assessment of their clients which involves the link between the clinical assessment and the occupational safety and health aspect which considers the risk assessment around manual handling. MHSWR (1992) (1999), directs employers that for a MHRA to be effective a "competent person" should undertake a risk assessment. In healthcare the professional bodies (RCN, COT, CSP, IOSH) adopt this stipulation and advise members on the skills required to undertake a risk

assessment which considers the management process of education and training of a competent person when assessing the moving and handling of a client. The HCPs who attended the workshops were familiar with and identified that the HSE's Five Steps of Risk Assessment, (HSE 2011) the hazard identification and the risk colour coded evaluation chart (SMHPIS 2011) would be the route that they would choose when conducting a client based MHRA in the community. They recognised the importance of the MHRA format and the legal obligations that surrounded this process as part of their work as HCPs. They identified that hazard and risk information was used in the MHRA forms completed by them on behalf of their employers (NHS and Social Work) but noted that MHRAs were not always filled out for every client handling task and that there was rarely time to review the documents with clients. They routinely relied on the family carers, employed carers or other HCPs visiting the client to highlight any issues and from there a review could be instigated.

A Manual Handling Risk Assessment (MHRA) in this home/domestic setting is a process that investigates the moving and handling of a person with clinical needs that requires to be moved so that it can be done safely (HSE, 2012). Legislation dictates (MHSWR 1999) that an effective manual handling risk assessment (MHRA) (MHOR 1992) is required when moving a load. The literature identified that when carrying out a MHRA, an assessor usually considers TILE(O), (Task, Individual, Load, Environment, and Other factors). Hignett (1994) recognised the TILE approach to MHRA but highlighted its limitations with respect to complexity of tasks. Also, the literature search noted that little is known about the specific hazards / risks associated with moving and handling clients in their homes (community setting). This gap in knowledge was identified as a key part of the research. It has been argued in this thesis that the findings from the workshops extend the TILE (O) approach by identifying hazards / risks common to most if not all clients who are being cared for in their homes. This discussion has noted that for the assessment to be effective that the MHRA should have as a focus the processes described in the TILE (O) model. That is, the Tasks to be undertaken should be carefully considered, the Individuals carrying out the tasks should be capable and competent, the Load should be assessed as the Body Mass Index (BMI) of the patient / client and that the Environment in the community setting should be clearly identified, the physical layout

noted and the assembled data fully analysed. Any other factors relating to the MHRA should be noted as other necessary information. There is clinical information that recognises that the weight of the person to be moved needs to be carefully considered. This is to ensure that appropriate moving and handling planning around the tasks relating to the safe working load of the person are considered. It is important to decide on the most suitable items of AT equipment and then to establish the number of carers required to assist in the delivery of the care. It is suggested that a key part of the MHRA is the way in which a client is moved and handled. For example, for the assessment of the plus sized person, (Jenny), is her breathing adversely affected when she is moved and turned, for the progressive degenerative condition (Jack) does he go into spasm when he is being moved? It is suggested from the research findings based on the workshops and think aloud sessions that for effective MHRA that the TILE (O) approach should be extended and that the HCPs should consider as well in their clinically reasoned assessment the key themes of Medical Condition, Equipment, Home Environment, Complexity, and Community Care environments.

The participants at the workshops and at the semi structured interviews discussed the assessment criteria they frequently used for a range of client based activities in the community. They noted that routinely MHRA is just one aspect of their overall client assessments. A typical example of a related and comparative nursing risk assessment may be the use of the Waterlow risk assessment scale card (1983) for client related pressure care issues. However, as clients become more complex in their presentations and with the likelihood that there may be several clinical issues around their care (comorbidities) the moving and handling tasks involved in different environments around a person's house can create a range of moving and handling issues. For example, the move from a bed to a chair could be completed in one room but that space constraints make the same move in another room in the house an environmental hazard with high risk.

During the workshop meetings the participating HCPs as part of their MHRAs identified the client's home and the equipment available there as hazards / risks to be considered when conducting MHRAs in community settings. In acute settings, the Environment tends to be standardised, whereas in community settings, there may be

problems with the space available in the client's home for hoisting, storing equipment, point loading of equipment on different styles of flooring as well as the weight bearing capacity of the joists.

It was noted by most of the participants that this type of workshop led approach to risk assessment was a new concept. The participants were encouraged to think aloud about their use of risk assessments in their work. At an early stage in each workshop the terms hazard and risk were defined. A hazard is anything with the potential to cause harm. The risk is the likelihood that a hazard will result in harm. It allowed the HCPs to discuss clinical issues in a non - clinical setting and to learn about hazards and their associated risks without having to deal with the pressures of a "real life" setting in a person's home. The participants noted that they had not examined MHRA in this level of detail before nor had they been required to explain their perceptions of risk, the decisions that they had made around the hazards and their associated risks and the completion of the risk assessments documents with a process identified for communicating these outcomes to clients.

As noted early in this thesis, similar moving and handling Tasks are routinely carried out in both acute and community settings (NBPA/RCN, 1997; BackCare / RCN, 2005; HOP6 NBE / Backcare 2011). While workshop participants considered the moving and handling Tasks (e.g. moving a client from bed to chair) required to care for a client at home, the key hazards / risks identified in the workshops seemed to be superordinate to any specific task. The case study workshops and the interviews justifiably looked to the HCPs for their participation and involvement as it was their perception, decision making and communication of MHRA that was being researched. The thesis has developed and reported on through qualitative research how HCPs compile and use a MHRA in their involvement with clients with complex needs. However it is also advisable to consider the occupational safety, health and wellbeing (IOSH 2016) of the people giving the care to clients who are being moved and handled (Hignett 2003).

A key determinant of an effective MHRA indicates that the details contained in a client specific risk assessment is equally of use to deal with the needs of the client as well as for the safety and benefit of the care givers. To add to the overall discussion

'to what extent is the specific safety and risk management legislation used by professionals in the identification, investigation and explanation of hazards and the risk evaluation of these hazards in a manual handling task?' consideration will now be given to the care givers. Of note is their role and relationship with the HCPs, the clients and their input to working with the details of the MHRA and its outcomes. As HCPs are involved in the care of clients their safety and wellbeing needs to be considered in the same assessment criteria. Craib et al (2007) consider the benefits of a programme designed to assist carers and professionals working in the community to help avoid MSD injuries associated with dealing with the moving and handling needs of their clients. They reported that there was little known research in this area of healthcare. To prevent injury effective interventions in the working practices of these carers was considered in a study which involved workers from six agencies. Reported injuries in the workplace and time loss injuries were the principal areas for research. The intention of the study was to gather relevant data on injury rates to the workers. The interventions were focused on key areas:

- Education and training module
- A risk assessment tool and resource guide
- Lift equipment registry

It is noted (HSE 2011) that personnel providing care to clients in the community need to be trained to provide effective support to vulnerable people. In gathering data for this particular study the researchers were looking to see who would report issues in caring for clients, injuries sustained whilst working in a healthcare community setting and the time lost in being absent from work due to injuries. The education model was developed to address health and safety issues in the home when moving and handling clients. Hazard identification, risks associated with the hazards and suitable and sufficient control measures were the main areas of education and training that were undertaken. A five topic manual was developed which looked at and included such issues as safety and risk factors, signs and outcomes of potential hazards, risk assessments, infection control, environmental and psychosocial hazards in the home. Supervisors were given appropriate training which considered such areas as hazard and risk management and assessment

along with the necessary skills and tools to educate their colleagues in safety matters relating to their own wellbeing and that of their clients. The training followed a set pattern and was conducted over a 2-3 months period.

A risk assessment document was part of this education and training programme. This involved assessments in clients' homes and was developed alongside a resource guide, a designated hazard assessment form which was divided into five specific parts. A comparison to the HSE five steps risk assessment format and the MHRA form used throughout the healthcare sector in the UK can be made. Ergonomic factors and control measures formed part of this process and a monitoring and review process was included to account for any significant changes to practice and procedure as well as clients' conditions. The lift equipment registry looked at the provision of mobile and ceiling mounted hoists and discussed in detail the development relationship with AT advice and supply companies. The important and integrated role of industry in this care process was recognized by the researchers. The outcome of this community based study was that the education and training of workers played an important part in cutting down on work place injuries. This was achieved by optimizing the risk assessment tool and combining this with education to identify early on in a person's care any issues which may cause injury or harm to workers. Control measures, for example, moving and handling equipment, introduced at an early stage of intervention, as a result of this assessment, would assist in reducing time loss injuries to workers. Further consideration was needed in the way in which injuries were reported. Workers with a previous injury were more likely to present with back injury problems over a period of time. It was noted that those with a related healthcare education were more likely to be trained/ be aware of potential problems and report any workplace injuries. It is also possible that those with an education, work in jobs which are less manual and therefore attract less chance of a lifting time loss injury. Further research in this area is recommended to account for the increased number of people being cared for in community settings. Craib et al (2007). Research in the community has considered the injuries of carers involved in caring for range of clients presenting with sometimes the same and other times different healthcare conditions and challenges. Alamgir et al (2007), Kraus et al (2002), Szeto et al (2013).

9.3 The Importance of the Community Setting in the delivery of Care.

This research is contextually set within the community healthcare sector where clients are routinely living at home with complex clinical needs and attempting to undertake daily living activities with the support of care and other clinical services. A relevant second question relating to this study was:

'*focussing on the community setting in what context can the hazard identification and risk evaluation data be applied by HCPs when using their clinical reasoning to undertake MHRA with complex clinical cases?*'

The initial stage of this risk management research thesis has been in the understanding of the role of risk assessment and in particular MHRAs and the relevance and the relationship to clinical reasoning as practised by HCPs in a community setting. This study is considering the involvement of HCPs and their professional assessment work in clients' homes. Previous discussion has concluded that Primary Care or Community Care is a key political and economic determinant in the provision of healthcare services. However, until late into the 1990s the acute sector had been the area of healthcare which had driven the moving and handling research and development programmes, as well as education and training of professionals and carers in this area of care management. Developments in medical research has increased life expectancies (WHO 2010). People are living longer with chronic conditions which are being routinely managed at home in familiar settings. Social Care as a discipline is delivering the care at home with the necessary primary and acute sector healthcare input and backup. Integration of services is seen as a logical progression of this process. The clients with complex clinical needs who are living and being cared for at home invariably need help with daily activities of which moving and handling is one of many tasks performed by the carers and supported by the HCPs. It is therefore relevant to this research to consider how in the community the clients moving and handling needs are assessed by a HCP using their clinical reasoning skills in a MHRA to establish the level of input from carers and professionals.

The HCPs participating in the research Table 6.2 were from different healthcare professions, with a range of experience and were actively involved in assessing clients in their homes. The table provides a detailed cross section of the participants and is indicative of what would make up a team of professionals routinely working in the community. In the community sector, MHRAs are conducted by healthcare professionals (e.g. community occupational therapists) who then produce from the MHRA a client specific handling plan. This may involve the use of Personas, photographs and a narrative about the care required and how to deliver it in a person's home setting (Figures 6.4 – 6.7). This information was produced from the case study workshops, the think aloud sessions and was validated by the participants in their interviews. Routinely, social care staff who are delivering care to clients then use the handling plan to move and handle clients. According to the TILE (O) model, the Individual is the care-giver looking after the client. In the community sector, the Individual may be a member of social care staff (who does not routinely conduct the MHRA or create the client's handling plan), could be a family member involved in the person's care or potentially a professional involved in certain moving and handling tasks as a specialist. The Individuals in the acute sector may have more of an involvement in both the development of the MHRA as an assessor as well as being a care-giver. A community carer (member of social care staff) who lacks appropriate training and / or competency is a potential hazard that could be identified as part of a MHRA, but investigating their training / competency is beyond the scope of the research questions that was investigated.

A person's home environment is perhaps the most challenging of the features to be risk assessed in the MHRA. It is acknowledged that the community setting is the preferred place to provide care for people who do not require on going attention in a hospital. This could be someone who perhaps has a progressive degenerative condition (Jack), who may be plus size (Jenny) has acquired a chronic medical condition (Janice) or is living with a life-long condition (David). The four case studies highlight that they are all being cared for in the community but that the place of care, their homes present with different environmental hazards with associated risk factors. The HCPs in the workshops commented on the "clutter" in Jack's house, the trip hazards of carpets and his unwillingness to clear working space to assist in his moving and handling care plans. Jenny's room was too small, the doors too

narrow and the layout unsuitable for the size/footprint of the equipment being used. Janice didn't like change and her house didn't meet many of her daily needs. Space was restricted and this had an impact on access around her rooms. David was in a house where some adaptations had been undertaken but as his condition changed and more equipment was introduced to his care it was apparent that the home environment, the space available to deliver care was not suitable. Change of environment could be rehousing, it could also involve home adaptations which incur expense, disruption and change for the client and other family members. It is argued that the psychological factor of the home being a person's "castle" is at the forefront of the decision making of the HCP. They understand it is where the person lives, identifies with and operates from and that importantly it is not an institution or an acute setting. The transfer of care to the home environment does make it a clinical setting as clinical needs are being met and a client's medical and personal care is being provided for there. The environment is one of the five themes that developed out of the workshops and the think aloud sessions and it highlighted how important it is to consider this in terms of the person, the carer and the identified needs noted in the assessment process. Finally, it was recognised by the participants that few people plan their home environment to meet future care needs and that acute episodes once dealt with in the hospital setting invariably are managed in the medium to long term back in the person's home which is not always environmentally suitable for the care that is then required.

Throughout the different stages of the research programme the HCPs also identified that when clients are admitted / returning home from hospital from an acute episode, there can be delays in forwarding medical reports as well as a lack of sharing in the person's MHRA which in itself can potentially compromise the transition in a client's care from one healthcare sector to another (acute/community).

As one of the five key themes developed in the research it is suggested that HCPs should consider what is meant by the term Community Setting and the provision of Community Care when conducting MHRAs in this environment. It is noted from the research findings that the focus on the community is an important factor as it provides the setting where HCP practice their clinical skills. In dealing with people in their own homes who present with complex needs the clinicians need to consider

many factors in their client specific assessments. It is argued that a key part of this integrated assessment approach is their clinical reasoning of the client who is at home in the community setting.

9.4 Clinical Reasoning and Competency

This research has considered the broad terms of risk assessment and its role specifically in a MHRA through the process of TILE (O). The community setting is where the research is located and where continuing care is now delivered worldwide as part of the provision of present day healthcare. The MHRA is a process which considers the occupational safety and health of clients as well those delivering the care. This research is looking at this risk assessment in terms of the clinical reasoning input of professionals when assessing their clients at home.

To investigate the role of clinical reasoning in this thesis a third question was posed.

'to what extent and in what ways is clinical reasoning relevant when undertaking a MHRA in the community setting?'

The case based workshops and the think aloud sessions looked initially at the emergence of clinical reasoning and occupational safety needs in a MHRA. Consideration was given to the individual healthcare professional's focus of risk perception and risk decision making. This detail was then analysed and finally how these reasoned perceptions and decisions are communicated to the client and their carers was discussed.

Elstein and Bordage (1991) argued that clinical reasoning involves clinical judgement and clinical decision-making. Elstein and Bordage (1991) considered clinical judgement to be deciding what is wrong with a patient. With respect to the 'Five Step' model of risk assessment it is argued that this is similar to risk perception in that hazards (in this case symptoms or features from other medical information) are identified with respect to their potential to cause harm. They considered clinical decision-making to be deciding what to do. Again, with respect to the 'Five Step' model of risk assessment, this is similar to risk

decision-making in that a decision is made about the precautions to be taken. Critical Thinking includes questioning, analysis, synthesis, interpretation, inference, inductive and deductive reasoning, intuition, application and creativity." (American Association of Colleges of Nursing, 1998). Benner et al. (2008) argue that critical thinking integrates knowledge, experience and clinical reasoning to support the clinical practice of the professional. Within the practice of critical thinking is clinical reasoning and clinical judgement. This can be reasoning as it is applied inside and outside of clinical practice.

Benner (1984, 2005) developed a 5-stage model of how clinical reasoning progresses. Her model was originally developed based on research with nurses but has since been applied to other professions allied to medicine. It was therefore felt that this was an appropriate model to use as a basis for the explanation of clinical reasoning in this research as the participants were Occupational Therapists, Physiotherapists and Nurses. According to Benner's model, clinical reasoning in an HCP develops as a function of experience. The model refined and validated in this research is developed using Benner's model and specifies that clinical reasoning in MHRA develops through three stages (Novice, Competent, and Expert) as a function of experience through different job roles. Benner et al (2008) considered that clinical reasoning was one of several strategies used by healthcare professionals as Novice, Competent and Expert when dealing with advanced clinical cases. The professionals working within their own level of experience and knowledge need to think critically and clinically about their reasoning and to apply their judgement in relation to the advice that they are giving to their client and potentially to carers. The professional as part of this qualitative reasoning has to competently apply knowledge, skills and experience to the moving and handling of clients. Implicit in the meaning of competency of the healthcare professional is a development and application of education, skills and training built up over a period of doing the job and reflecting on the practices that have been carried out. This level of involvement was evident in the groups, by the details noted on their worksheets and in the data provided in the workshop presentations and the subsequent semi structured interviews. As expected it showed a range of broadly similar views from the participants but highlighted that some were more experienced than others. "I prefer to take a colleague or my senior with me when there is a complex case given to me." (Occupational Therapist).

Minda (2015) suggests that in healthcare, professionals are quite often involved in helping a client manage their condition led circumstances. In some cases recognising the issues around the person living at home with the condition plays a more important part than an actual diagnosis and/or prognosis. This situation may be heightened as the person is at home and is trying to adapt their home to the changes brought about by their condition. It is potentially a different set of personal and environmental factors compared to when a person is a medium to long stay resident in a more institutionalised setting, a hospital or nursing home. The workshop environment set out to replicate the household environments of the case study clients so that the HCPs participating in the research could apply their clinical reasoning to the contents of the case studies and hence build up and combine their risk assessment based on clinical reasoning as well as occupational safety and health factors.

Minda (2015) suggests that medical staff using their clinical reasoning relating to a patient have a tendency to trust 'similarity' and 'exemplar memory' when diagnosing a condition/illness/ presenting factor. There is an inclination to map what they see with what they associate as a previous exemplar of a patient Patel, Arocha & Zhang, (2005). Norman and Brooks (1997) imply that medical clinicians create hypotheses based on their diagnosis of a situation and compare the current patient exemplar by drawing on highly comparable cases which have noted precedent. There is a reliance on a wide ranging and in depth clinical knowledge which they use to make their decisions about a situation or condition. It is reasonable to suggest that an expert dealing with a client in the community like Jack and Jenny with a range of complex needs could potentially base their clinical reasoning about the client with a reliance on similarity and exemplar memory. The Mattingly and Higgs approaches to clinical reasoning previously discussed outline that HCPs are encouraged to think of their clinical reasoning in terms of problem solving as well as considering the diagnostic, prognostic aspects of a condition. Devantier (2009) suggests that medical staff are trained in biomedical facts and it is only once they reach expert level that they combine anatomy, physiology with experience and discuss clinical decisions from a position of exemplar knowledge. Boshuizen and Schmidt (1990) p611 refer to this link of clinical and science based training with their approach to clinical

reasoning as 'knowledge encapsulation.' They suggest this approach is consistent with combining the facts and instances that they remember about a patient and their exemplars with their biomedical knowledge. They further explain their views by noting that there is an element of generalisation around their diagnostic explanations. Throughout the research on MHRA the generalisation of the personas and the themes included in the level descriptors supports the role of the expert and the advice and support that this HCP offers to the competent and novice practitioner. This detail was verified by the facilitators at the participant validation interviews. There is further evidence to support the three categories and the themes emerging from the workshops and interviews when Boshuizen et al (1992) suggest that the knowledge base of the novice is learned experience on clinical detail and processes whereas the intermediate or the competent uses their learned medical skills and knowledge and are working towards incorporating their clinical reasoning into their decision making processes relating to clients and their needs. The expert combines all the skills of the rounded clinician, develops expertise through knowledge and experience by combining different degrees of biomedical expertise based on similarity and exemplar memory.

The role of the competent person has been widely explored in this research programme. In the absence of one competency standard covering all healthcare professionals the facilitators at the workshops and at the interviews considered three grades of participant competency, novice, competent, expert as a function of experience. It was the individual's perception of the hazards and the associated risks that was being studied (psychometric paradigm). Interestingly, Minda (2015) chose three groups, novice, intermediate and expert to analyse his research using hypothetical patient profiles. The profile of a target patient, similar to this research persona and/or case base reasoning was compared with two other patients with similar conditions to try and establish the best match to the condition led study. The terminology used to explain the matching was a 'surface feature match' and a 'deep-feature match.' The level descriptors for Jack and Jenny (and extending to Janice and David) allow for a discussion by HCPs on what hazards and risks generalise and potentially match to other cases. Similarly, Minda (2015) suggests that there are characteristics that commonly present which would allow a novice, intermediate or expert to categorise a patient into "management like categories."

Implicit in the researched model is that as one moves from Novice to Expert, Non-Analytic Reasoning or Recognition-Primed Decision Making will develop as a function of experience. With respect to 'Jenny', her weight and her small home environment are likely to provide salient cues to a risk assessor. According to Recognition-Primed Decision-making Klein, (2008), these cues may be matched to a similar client case from memory, which will then influence the action taken. Klein (2008) pointed out that a further stage of Recognition-Primed Decision-making has to do with comparing options and the notion of satisficing. In Jenny's case, the risk assessor may select the most workable, short term options rather than the best possible option, which may involve adapting her home environment and providing more appropriate assistive technology equipment. Likewise Minda (2015), suggests that intermediates and experts routinely decide on a deep feature match compared to novices. This research identified that experts responded to condition led characteristics more intuitively than competent and novice participants but further research would need to be conducted to determine if this was due to perceiving deep features in the clinical cases.

It is suggested from the workshops that the clinical reasoning of the HCP is an integral and recurring part of the MHRA process. The workshop findings suggest that HCPs should consider their clinical reasoning in terms of the client's Medical Condition, the reason for prescribing Equipment, the involvement of the Home Environment as a clinical setting whilst recognising the increased Complexity of clients who are living with a condition/s whilst in their own homes as part of a Community Care package of care and assistance.

Models of Competency applied in healthcare have been reflected upon in the research literature and have been considered in order to highlight alternative individual qualities of healthcare professionals and to provide a more critical examination of the competency perspective as a potential alternative framework to that of clinical reasoning. It is suggested that in doing so this has established the importance of the clinical reasoning approach more effectively in the model. In the absence of an education and competency model/s that covers all the HCPs participating in this research, various professional competency models were

considered to show that competency like clinical reasoning is a framework that could have been potentially used to answer the three research questions. Clinical reasoning was chosen as it provided the predominantly qualitative reasoned approach taken by a HCP when dealing with a client's MHRA. It is however, important that recognition is noted of the different competency frameworks.

9.5 Competence, Safety Culture, and Safety Climate

Competence forms one part of the four sections (control, cooperation, communication) of a safety culture advised by the HSE (1993). The participants were aware of their duty of care to clients and their involvement as a competent professional who could undertake a MHRA. Integral to this discussion on risk perception is the role of safety culture. Fischoff et al., (1978). In a community healthcare setting, this safety culture, can be considered in terms of the prevailing safety climate at an individual and at a work group level. Flin et al ., (2006). In the context of this research this could be at an individual healthcare professional level or as a carer with an involvement with a client. Glennon (1982) p23 maintained that safety culture is a "complex causal process" which considers policies, procedures and structures which has an influence on an individual's perceptions. This view can be considered as the manual handling policy, the MHRA which influences the procedures for moving and handling a client and the structure of care provided to meet the client's needs in a community setting. Flin et al., (2006), P177, maintain that "measuring safety climate in healthcare helps to diagnose the underlying safety culture of an organization or work unit." Rundmo (1997), p75, applying the psychometric paradigm to safety culture considered the role of the individual and the application of risk perception in a given situation. Hazard identification and who may be harmed, referred to in the research model as risk perception, can potentially inform safety culture where this culture, is " the product of individual and group values, attitudes, perceptions, competencies and patterns of behavior that determine the commitment to, and the style and proficiency of an organisation's safety management." Flin et al (2006), p177-192, Kim and Wang (2009), p63-82, believe that the psychometric paradigm can be used to explain " the mental processes and calculations of safety culture at the individual level." These views are consistent with the development of the research questions on MHRA, Community Setting and

Clinical Reasoning and can be considered when examining and developing the inter related role of risk perception, risk decision making and risk communication in the subjective risk assessment process. This research is looking at the role of clinical reasoning applied by the individual HCP in the process of MHRA in the community. Gregory et al (1993) take the view that a psychometric approach to risk is consistent with experiential thinking (competency), intuition (non-analytical reasoning) and the impact of emotions, attitudes and beliefs in the risk assessment process.

The psychometric paradigm is used to inform this research questions about clinical reasoning and manual handling risk assessment as it is suggested that different health care professionals as individuals involved in the MHRA of clients in the community are assumed to perceive risk differently, based in part on their training and / or work experience.

The RCN, COT, CSP have all set competency levels that they expect their members to work to as part of their job function. The RCN (2012), Integrated Core Career and Competency framework working alongside Agenda for Change ensures that staff working at different professional grades are properly qualified and competent to practice in the UK. Likewise HCPC looks to registered professionals to "practice to the required standards" when undertaking clinical assessments. This includes MHRA. The participants at the workshops, at their different levels (Novice. Competent and Expert) showed that their views, their knowledge and skills were in line with some of the professional educational and competency frameworks used widely in healthcare settings. The following examples highlight competency standards and alongside reference is made to the outcomes achieved by the participating HCPs at the workshops (in italics).

NHS Clinical Leaderships Competency Framework encourages *working with others, setting direction,* The Ergonomic Patient Handling Passport and Learning Scheme along with the SMHPS (2014) considers the competence of the individual professional by focussing on *training staff in patient handling skills based on the assessment of hazards, risks and needs.* The DiNO/SOAP competence assessment models looks at the professionals' involvement and *interaction when undertaking transfers of patients and considers the use of equipment, competence, skills and the use of safe systems and methods of work.* The Knowledge and Skills Framework

(KSF) as an indicator of the involvement of the participants and their use and practice of skills including *learning and development, knowledge and information.* Institute of Medicine (2001) develops the concept of "skilled healthcare professionals" who are central to the design of developing healthcare systems which in the Quality Chasm report (2001) identify five competencies: provide patient centred care, work in interdisciplinary teams, employ evidence based practice, apply quality improvement, utilize informatics. The data obtained from this research project has evidenced all these competencies in which groups of professionals, from different healthcare backgrounds, working in collaboration (McDonough and Doucette 2001) have come together to consider the relevance and importance of moving and handling of clients in the community. (NBE 2013). The Trusted Assessor Model (COT, 2005), The Kaiser Permanente Triangle, National Occupational Standards and National Workforce Competencies are all examples of competency models used in health and social care to ensure that appropriate and measured services are delivered to clients.

The Derbyshire Inter Agency Group (DIAG) is a further example of professional groups sharing a series of standards in the development of a training organisation that others within their healthcare area can access. The SMHPS sits alongside this concept and is open to those working within the NHS, Social Work and the third sector. The participants at the workshops and the interviews are all knowledgeable about the aims and objectives of the SMHPS and along with colleagues who belong to the National Back Exchange (NBE) bring this level of awareness to their practice and involvement in the research programme.

The participants at the Validation Interviews and in their course evaluation sheets commented on the applicability of the workshops to their jobs. They recognised that professionals are competent in what they do but that their confidence in dealing with complex moving and handling cases can depend on "how often one is allocated to you." As registered professionals they are aware of the importance of continuous professional education and development. The workshops gave them the opportunity to discuss moving and handling from their perspective and to assess the clients according to their perception of hazard and risk. At the Participation Validation Interviews, the HCPs were shown the level descriptors forms and asked to comment

on them at the follow up interviews. The facilitators and the participants noted that they could use these immediately and that the contents and the three levels were appropriate as a lowest common denominator to educating and training professionals at different levels of experience and at the same time offering advice to clients and carers on the five themes which highlighted   hazards and associated risks involved in dealing with complex cases in the community.

The participants were all professional healthcare staff who had attained an academic level in their chosen area of work (i.e. nursing, occupational therapy, physiotherapy). Amongst the facilitators and participants there was evidence of involvement and the use of best practice processes through interest groups (NBE) and the adoption of policy and procedure provided through membership of recognised occupational safety and health chartered organisations (IOSH). It was accepted by the facilitators that the participants would have a broadly similar approach to how they undertook a MHRA. They were not graded according to Benner's five steps in their occupation or by their employers. Therefore the use of three levels which could be used as a good indicator of their level of experience was chosen by the facilitators. It was important to set these indicators against which participants could be allocated a place. However, the key factor in line with the Psychometric Paradigm was the role of the individual and their perception of risk and the development of clinical reasoning involved in moving from rule governed thinking (Novice) to an intuitive grasp of the situation (Expert). The data gathered reflected the individual's views and attitudes. This was combined with the views of the mixed experienced teams to ensure that as many relevant facts were gathered, noted and analysed as possible. It acknowledged the level and importance of experience (Benner) but in the absence of any organisational grading that a simple novice, competent and expert would suffice and allow the rich data provided by the participants to be aligned with the three grades. This approach was validated at the Participant Validation Interviews.

9.6 Chapter Summary

It is argued that an effective MHRA in a healthcare setting involves the relationship between the HCP, the client and the carer givers. The basis for the assessment is the risk assessment and the framework used for this is the HSE's Five Steps to Risk

Assessment. An understanding of the legislative process by the HCP/client/carer informed by the specific clinical needs of the client should allow for an integrated assessment plan. It is suggested that this MHRA plan is a cyclical process which identifies hazards, evaluates their risks, considers who could be harmed in the tasks and looks to realistic outcomes which can monitored and reviewed in the clients home within the community setting. This chapter has outlined using the three research questions the extent and the ways in which clinical reasoning is relevant in MHRAs in the community setting. The legislative relevance of risk assessment and in particular MHRA has been at the foundation of the research and the proposed model. The five steps to risk assessment (HSE 2016), is key to the development of the research model. The individual HCPs perception, decision making and communication of the hazards and their associated risk (Psychometric Paradigm) makes the case for the role of the HCP as the competent person in the risk assessment who uses and applies their clinical reasoning to the assessment process.

It is argued that the use of a MHRA based on the Five steps to Risk Assessment ensures a process which all professionals can follow in their specific moving and handling assessment of a client. The Five steps is a structured framework identified as best practice by all professions involved in any form of risk assessment. The hazard identification through to the review is a cycle which is followed whereby it is attempted to reduce the risk associated by tasks carried out by individuals where a load needs to be moved and handled in a given environment. In a healthcare setting it is argued that the clinical need of the client is a prerequisite to any assessment. The professionals involved in caring for a client will be working from a client's medical diagnosis with the person's prognosis also under consideration. In the risk assessment of the client the clinical reasoning of the clinician will influence the actions taken to assist the client especially if the person is presenting with comorbidities. The research further considers the relationship between clinical reasoning with the Five Steps / Clinical Reasoning Cycle. The role of competency in the MHRA has been discussed as an alternative framework to clinical reasoning. The argument has been made that a competent person should carry out a MHRA on a client living in their home environment. It is suggested that this competent person

should be an educated person with knowledge, experience and training to ensure that the MHRA is relevant to the client and the carer givers.

Chapter 10 Conclusion

10.1 Introduction

The purpose of this chapter is to discuss the theoretical, empirical and methodological contributions made in this thesis. This chapter then considers the practical implications of these contributions and provides questions for further research before concluding this thesis and presenting it as an unique contribution to knowledge. Three research questions covering MHRA, discussing the community setting and detailing the use of clinical reasoning were used to consider the extent to which HCPs use clinical reasoning in the ways in which they conduct MHRAs. The locus of the community was chosen as there was little known research in this area. The challenges presented in the community for moving and handling people with complex medical needs in their home environments has shown that there is a different set of assessment criteria for dealing with people who are invariably living longer and in many cases are becoming heavier and more debilitated (SIGN Obesity Guideline 2010). To support this discussion there are studies (HSE 2013; Markkanen et al., 2007), which consider the conditions and assessment criteria for delivering moving and handling services through a network of social care to clients at home. It was hoped that by considering the moving and handling hazards and risks in a home that the gap in knowledge and information could be addressed by undertaking this qualitative research with thematic analysis. The theoretical, practical and methodological contributions to knowledge have been identified with respect to the overall study and are summarised in this conclusion.

10.2 Summary of Research. Theoretical Contribution to Knowledge: A Model of Clinical Reasoning in MHRAs in the Community Setting

This thesis has set out to investigate three research questions involving MHRA, Community Setting and Clinical Reasoning. Minda (2015), argues that medical/clinical expertise considers cognitive activities like decision making, communication, problem solving and memory.

There are hazards and associated risks in medical practice which can result in errors. The reduction of risk in clinical practice has considered through research, medical thinking and reasoning to assist as a way of mitigating misdiagnoses and reducing, eliminating and controlling errors. The use of a MHRA in clinical settings is an example of studying the hazards and risks associated with moving a person with a view to reducing the likelihood of injury to the client and/or the carer.

As part of investigating the research questions on MHRA, Community Setting and Clinical Reasoning an unique theoretical contribution to knowledge was created by developing a model (Figure 10.1) of how healthcare professionals use their clinical reasoning when conducting MHRAs in community settings. The analysis considers the wider role and relevance of clinical reasoning as a key method through which the risk assessment undertaken by the HCPs can be viewed. This model is based on the 'HSE's Five Steps to Risk Assessment', highlighting the processes of risk perception, risk decision making and risk communication. The model integrates these processes with cyclical models of clinical reasoning and stages of development in clinical reasoning, yielding level descriptors. The model points to a role of Non-Analytical Reasoning by experts and the development of a safety culture in community care organisations. It recognises as well that there is a place in healthcare clinical practice for decision making that adopts an analytical reasoning approach. The model of clinical reasoning in MHRA in this research is based on Benner's model and specifies that clinical reasoning in MHRA develops through three stages (Novice, Competent, and Expert) as a function of experience through different job roles. Empirical evidence at participant interviews was noted and recorded from professionals at different levels of experience who were independently selected by HCP facilitators within their organisations. The interview findings were used to investigate the role of experience in clinical reasoning in MHRAs. Each of the five workshop themes were considered relating to the processes of Risk Perception, Risk Decision Making and Risk Communication using participants with different levels of experience.

The data was coded using Benner's model of the development stages in clinical reasoning. From the participants the research identified three stages of professionals (Novice, Competent, Expert). Finally summaries of these Interview

findings from the two case studies were tabulated to show the relationship between the three stages of professionals and the five themes in terms of risk perception, risk decision making and risk communication and from this information empirical data level descriptors were generated.

The data from the workshops to the interviews were validated later at Participation Validation Interviews at which the Model, the Level Descriptors and the Personas were presented to the HCPs and their comments noted and analysed. The theoretical implications of the model consider how the clinical reasoning of the HCPs develops with experience from rule based to more holistic intuitive based reasoning.

It is suggested that the three groups highlighted in the model explain the development of a professional from a novice where professionals are taught general rules to help perform tasks, through to competent where they are able to prioritise information based on past experience and expert who can show a level of accuracy, an intuitive understanding of each situation and have the ability to get to the point of the whole issue directly. Experts, through experience routinely consider many issues and can look at inter related facts, prioritise them and consider the way in which they engage with the moving and handling and clinical issues that are presented to them by their clients. The model offers an opportunity for clinicians at each stage of experience (Novice, Competent, Expert) to use the themes identified in the research process. The key to each level is indicated as Novice where a mix of work experience is noted in their practice with competent professionals using their policy and procedure skills in their assessments through to experts who have developed to a senior /management position and take an intuitive approach within their work practice.

It is suggested in the model that HCPs as (Novice, Competent, Expert) using their individual experiential level of skill can identify with the detail in the personas and refer to level descriptor data (refer to tables 7.6,7.9,7.12) along with their risk assessment knowledge and the presenting clinical problems of clients to cyclically work towards outcomes for their clients. It is suggested that the professionals will follow a similar clinical path based on recognised practice but will start to show where their own experience and skills allow them to take the presenting client

moving and handling issues to a different level. This could be by relying on and engaging with fellow professionals with more knowledge and experience or by their own intuitive learning. The model allows for and encourages healthcare professionals to share and learn from each other and engage in best practice when moving and handling clients. It is suggested that this inter dependency approach by professionals permits goal setting for clients and the understanding of the total situation that is presenting by the person receiving the care. Dealing with a complex clinical case in the community requires a degree of fluidity and flexibility which comes with experience but allows professionals with less experience (novice) to learn from those who can offer guidance and clinical reasoned support (competent and /or expert). It is suggested that this is why using the five steps to risk assessment and incorporating this process using risk perception, risk decision making and risk communication skills is appropriate for researching this subject.

Using the five identified themes, the model specifies that community healthcare professionals should consider the client's medical condition, equipment, home environment, case complexity, and community care when applying their clinical reasoning in MHRAs. The model is shown in a cyclical format which acknowledges that medical conditions change, assessment is a cyclical approach and that domestic environments present many different hazards with associated risks based on the space available to care for a person at home.

The model explains risk assessment and its management through a system of monitoring and review and this in itself becomes a cyclical process. The key features of the model recognise this evolving and changing situation when dealing with clients. These facts are explained diagrammatically in Figure 10.1 which shows A Model of Clinical Reasoning in MHRA in Community Settings informed by the experience of HCPs summarised using tables of level descriptors.
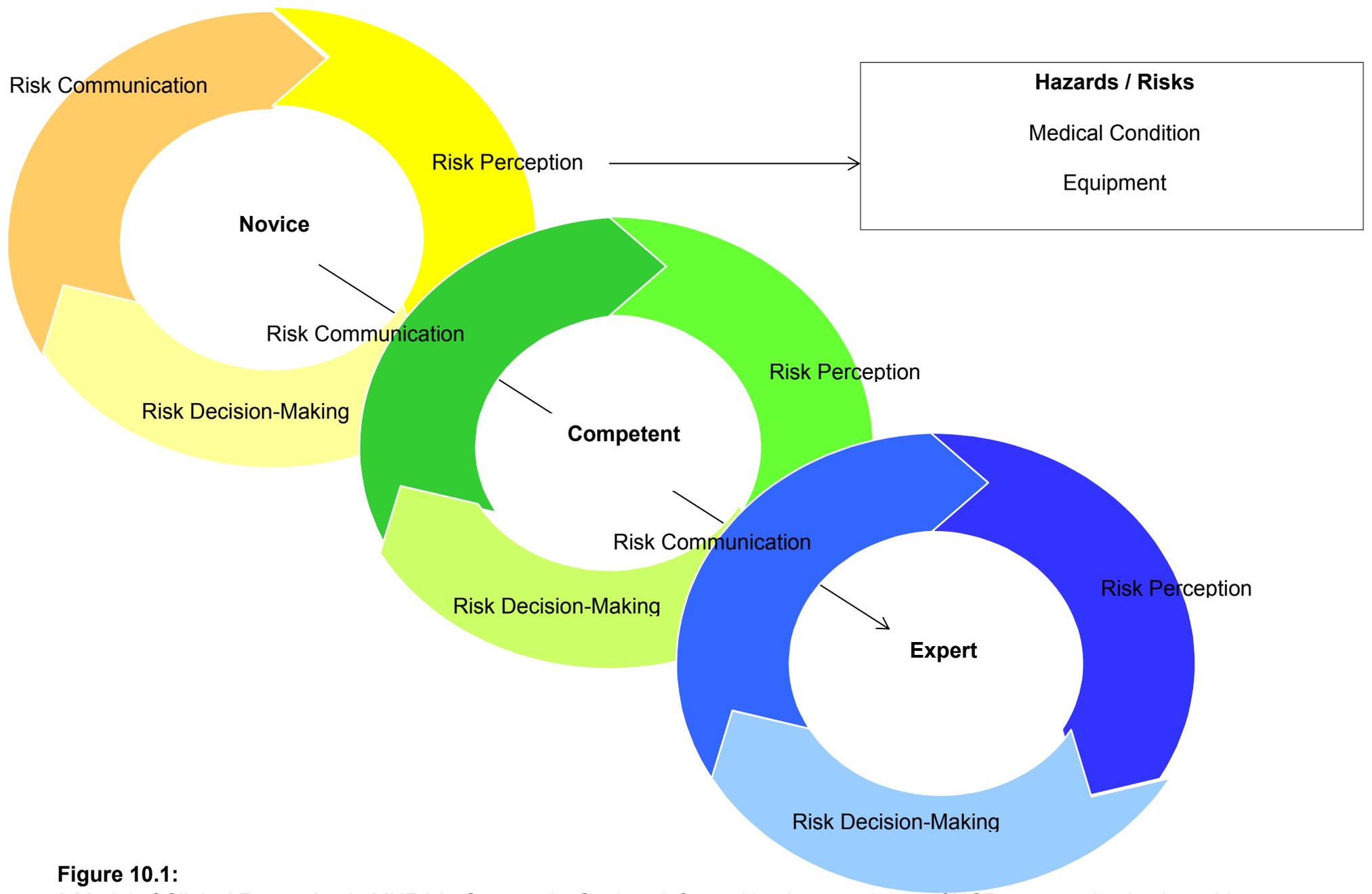
Figure 10.1:
A Model of Clinical Reasoning in MHRA in Community Settings informed by the experience of HCPs summarised using tables of level descriptors

10.3 Methodological Contributions

Two methodological contributions to knowledge were made by firstly developing clinical case studies (personas) that can be used to study MHRAs in community settings, and secondly a specific programme using MHRA training workshops that incorporate the 'Think Aloud' procedure.

The case studies (Jack, Jenny,) were used to generally inform the research programme undertaken at the workshops. They helped provide useful data that was interpreted by the HCPs when they were identifying hazards and noting and evaluating the risks associated with these hazards. The case studies provided a focus for the theoretical and practical activities undertaken by the workshop HCP participants. Valuable research data was gathered from the interaction, responses and the think aloud presentations involving the participants. The data was closely analysed and the outcomes have formed the basis for this study using qualitative method research with thematic analysis. It is suggested that the body of evidence that has been gathered along with the visual and practical use of the Personas will enable HCPs and other professionals to evidence theoretically and practically the use of clinical reasoning in MHRA when dealing with clients with complex medical conditions who are cared for at home. The case studies on Jack and Jenny have been the focus of this research. Of significance to the breadth of this research project, it is important to recognise the existence and the relevance of the case studies on Janice and David.

10.4. Study on Janice Brown and David Lawson: Pilot Group

The pilot group agreed that they only wanted two case studies. This meant that the studies around Janice Brown and David Lawson were not used at the workshops or referred to in the interviews. The pilot group noted that the contents of both these case studies were very relevant and the details interesting and appropriate to the community setting. The group discussed the two other cases and noted the identified hazards and risks identified for both clients. This information was not tested by HCPs. It was highlighted that the format used for Jack and Jenny could be easily transferred to Janice and David. Based on feedback from the pilot group,

personas were created for both a stroke, Janice, (CVA case) and a separate one for a client, David, living with Cerebral Palsy (CP). The pilot group wanted the two cases (Janice and David) kept as backup and relevant examples to the two chosen studies. The pilot group identified that stroke cases in the community are invariably complex cases. The Scottish Government's Stroke Improvement Plan (2014) identifies eight priorities and identifies action plans for those people affected by a cerebral vascular accident (CVA). Once medically stabilized there is a transition from the acute sector to the community where many stroke patients are living at home. They require the input of a range of people involved in managing their rehabilitation programme and their care needs. This can be from nearly independent to totally dependent. Janice's case study is one person's journey living with the effects of a stroke. It involves family, friends and carers, the assessment of clinical needs by health professionals and the use of equipment in her home environment based on their clinical reasoning.

The pilot group commented on the complexity of David Lawson's case study as a client presenting with Cerebral Palsy. This client was discussed at the pilot meeting and it was noted how complex and difficult it is for him and his family to undertake daily activities in the home environment. The pilot team discussed how this type of case would be handled by the paediatric/children and families teams and would be referred to their specialist therapists. This team would consider the type and provision of equipment used and the packages of care that would be set up to deal with such a case. It was suggested that the involvement of education and child health specialists would take this case study away from the mainstream discussions relating to the research.

It was noted that MHRAs would apply to both Janice and David. Perhaps if the research process is taken forward then the studies of Janice and David could provide a portfolio of cases that HCPs potentially could use and refer to when dealing with complex cases in the community. The research achieved the development of the case study based workshop and the Personas. It has been suggested that the Personas could be used as an assessment tool for HCPs when they are undertaking MHRA with complex cases in the community. The information

gathered from the Personas could potentially be kept in a reference library (case based reasoning) as researched by Taylor et al (2007).

10.5 Case Based Reasoning

Taylor et al (2007) p170, examines the use of case based reasoning as a method of building an evidence based library of information using data from case studies. In clinical practice there is evidence of the effective use of case based reasoning as an "artificial intelligence technique for problem solving." It has been effectively used in a computer tablet based format in the pharmaceutical industry but has yet to be researched in terms of healthcare practiced by professional allied to medicine (OT, PT) There are definite similarities to the information gathered in this research. It is suggested that the level descriptors which if tabulated in a pc format, Craw and Rowe (2002), could be potentially used in the risk assessment of clients who are identified through their personas with specific clinical conditions and medical needs. For case based reasoning, using cases that have already been solved, it is argued that HCPs can potentially adapt the data gathered to assist in their decision making process relating to new case- loads all with their own specific challenges. A "library" of information is collected and used with the necessary individual application to consider the best approach to take with the client. The identification of the problem and a solution to the issue represents a case. Similar to the cyclical model described in this thesis, Taylor et al citing Aamody and Plaza (2007) outline a four stage cyclical flow of the CBR system in a home setting. They suggest the method adopted in an assessment considers the following process:

RETRIEVE the most similar cases or cases
REUSE the knowledge in that case to solve the problem
REVISE the proposed solution
RETAIN the parts of this experience likely to be useful for future problem solving.
This example is further expanded in Figure 10.2 to show the CBR in a healthcare situation.
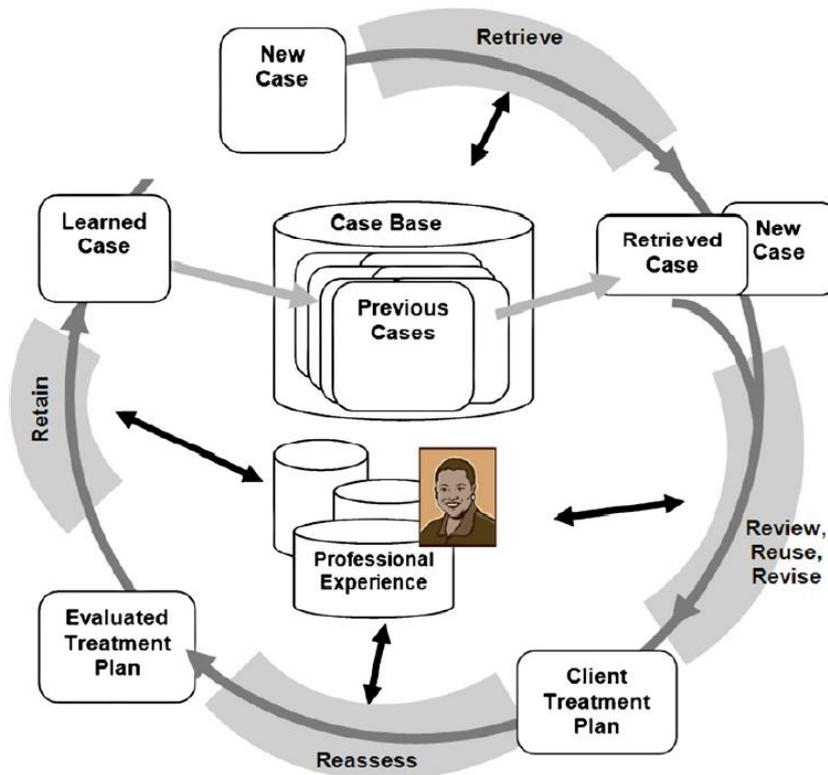
Fig. 1 – CBR cycle applied to home electronic assistive technology.

Source: Taylor et al (2007). Figure 10.2

There have been adaptations made to this approach but in line with the CRC cycle and the model highlighted in this research it shows a process that HCPs can follow in their clinical practice when dealing with what has been noted are more complex cases in the community. Taylor et al (2007), pp101-111, point to two advantages of this system.

- It is very efficient to draw on past experience. It saves human time and effort and can produce solutions and shows high confidence in that ("it worked last time").
- It can help solve problems when there are no first principles or theory…..this is the situation ….where the theoretical knowledge that underpins the activity has not yet been established and there are not any " rules of thumb" that could be applied. "

Using the structure of the above figure (Taylor 2007) it is suggested that the four case studies/personas in this research could be used as the case base. The individual themes/level descriptors in this research, medical condition, home environment, equipment, complexity, community, could be considered as part of the process plan for use by HCPs at novice, competent and expert levels in their careers.

10.6 Methodological Contributions: Think Aloud

The second methodological contribution was the use of the 'Think Aloud' procedure in the training workshops. Banning (2008) argued that the 'Think Aloud' procedure is appropriate for use in small groups to study the development of clinical reasoning. Hignett and Crumpton (2007) used a technique-training approach to investigate patient handling by nurses. Their approach was consistent with the 'Think Aloud' procedure as they required participants to verbalise their thoughts while performing a simulated patient-handling task, and then take part in a semi-structured interview which further investigated participants' decision-making processes. It was on this basis that the 'Think Aloud' procedure was chosen as a research method for the training workshops. The think aloud qualitative research method is widely used in psychology to investigate thought processes. At the workshops participants were asked to articulate their thoughts and to give an indication of what they were thinking about in relation to the Jack and Jenny case studies. In particular they were focussed on the MHRA process for these two clients presenting with complex needs and living in a community setting. The hazards and the associated risks were verbalised, the data captured in notes, photographs, a mind map and worksheets.

This information was followed up by semi structured interviews and participant validation interviews. Qi (1998) highlights that follow up interviews will help to validate what has been spoken about at the think aloud session. The think aloud sessions were used to investigate what the participants were trying to achieve, interpret, understand and articulate in the course work and the workshops in relation to their risk perception, risk decision making and risk communication whilst using the five steps to risk assessment and including their clinical reasoning.(Offredy & Meerabeau, 2005; Banning, 2008). This research was attempting to understand and

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analyse how individual HCPs as participants in this study perceive risks (Psychometric Paradigm, Slovic 1992) and how they undertake tasks presented to them in their clinical practice in the community. The participants as qualified HCPs were examining their working practice and the relevance of their clinical reasoning in MHRAs. They were using Assistive Technology equipment to find possible solutions to the moving and handling hazards and associated risks when dealing with clients with complex needs in a community setting. Their aim was to produce outcomes from the MHRA data which they had collected as individuals and then in their groups before presenting their findings to their colleagues. This research programme was new to them and so it was taking tasks to different achievement levels and challenging the participants to think more laterally and perhaps more academically which it was hoped could be a benefit to the think aloud replies. (Johnson 1992).

10.7 Practical Implications of the Research

Although the training workshops and case materials were developed for research purposes, it may be possible to use them as an integral part of training programmes. Rose (2011) p84, (HOP6) cites Reece and Walker (2007) who defines training as "the acquisition of knowledge and competencies as a result of teaching of vocational or practical skills."

The development of the case studies and the process of piloting and running the workshops was undertaken with the involvement of healthcare professionals from social work services, workforce planning and NHS risk management. The training standards of these organisations on people moving and handling were used to create the aims and objectives of the workshops. The facilitators participated in the workshops and were there representing their organisations, professional bodies and interest groups, (SMHF) (NBE). The checklist from the HOP6 Rose (2011) p84 was used as a guide to the content and running order of the workshop. The case study based workshop course was evaluated using guidelines from the same reference and asked the participants to record their views. This information was collated and was used to inform the research findings. The content of each workshop was the same and ran to a set timetable. The occupational safety and risk management section was delivered using the SMHPIS (2011) matrix, IOSH guidelines on hazards

and risks and the HSE legislation on the Five Steps to risk assessment. This safety advice and legislation is based on the HASAWA 1974 and the Management Regulations (1992) (amended 2002).The equipment used throughout the workshops was CE marked and met all the EU guidelines for servicing of hoisting apparatus, LOLER (1998).This detail ensured that all practical and relevant details were in place before the training part of the workshops commenced. The Assistive Technology hoisting equipment and accessories and the use of profiling beds, a range of postural management seating systems and small sliding and turning aids were all relevant products in the support of the moving and handling principles identified in the MHRAs.

Case studies are a recognised training tool (Hartley in Cassell & Symon, 2004), Yin, 2009), Gray, 2010).The contents of the case studies were based on four client specific cases presenting with recognised diagnosed conditions and each with a progressive and degenerating prognosis that placed them with complex needs. This collective package of educational and training tools provided participants with a practical learning environment in which they could practise their existing skills and by collective involvement advance their knowledge in MHRA and the use of the equipment. When evaluating the course the participants requested additional workshops on the adjustment of the Assistive Technology equipment such was the interest in the use and application of the various products used widely throughout the training programme. From the case study based workshop the narrative and the associated photographs were developed as a learning aid as well as a generic document that could be used by HCP to explain the use of equipment in a handling plan (Appendix 25). This information has been validated at the Participant Validation Interviews and has proved subsequently to be very successful in the risk assessment and handling plans of clients in the community as well as assisting in the training of HCPs. The same document according to one facilitator could "generalise and be used equally in the acute as well as the community sectors."

The evaluation outcomes and the data collected from the Participant Validation Interviews suggests that healthcare professionals benefit from practical case study based workshops which are developed around evidence based practice, professional assessment tools and techniques and incorporate the guidance of

professional bodies. It is possible that risk perception, decision making, and communication may change as a function of experience (from novice to expert). This could potentially be achieved with the development of similar courses and perhaps the use of Personas and Case Based Reasoning to assist professionals as they gain more experience of dealing with additional complex cases in the community. It would appear that there is a direct correlation between complexity and the number of hazards and associated risks that are found in a person's home. Any one of the case studies identifies up to 10 hazards which can be routinely applied to any complex case presenting with the same or similar conditions. It is suggested that the confidence to deal with such complex cases as a novice, competent or expert can only be achieved by building on the hazards identified in the workshops and combining the professional's clinical reasoning with the five themes that emerged from the research. This toolkit of data combined with CPD and the development of new practices and procedures through professional groups (NBE, IOSH) will potentially provide a stepped approach to effective and relevant MHRA in the community, based on the experience of the professionals. The managers of the HCPs through support and supervision may be able to use the formats of the Level Descriptors developed in this research to guide, educate and inform their colleagues and to help build their experience of dealing with complex cases in the community. Similar moving and handling problems have been identified in other related healthcare fields and through research change has been effected, staff protected and relevant experience has been gained.(Alamgir et al., 2007; Craib et al., 2007).

10.8 Limitations of the Model

The main limitation of the model developed in this thesis is that it was developed from research based on only two cases of clients with complex needs (Jack and Jenny). There were four case studies created as part of this research programme. The CEC facilitator considered the four different cases and decided with the pilot group that two of the "most common and regularly recurring types of clients" would be used. This type of research, and training programme was a new concept to the way in which workforce education and development is delivered in the participating organisations. The professionals wanted the workshops to be worthwhile and

effective for those attending as well as gathering reliable data on how this model of training could be developed. The four cases are important to this future work. The 'Jack' case was based on an actual client with multiple sclerosis who is living at home and being cared for within the community. The 'Jenny' case was based on an actual client who is paraplegic and morbidly obese, and who lives at home and is being cared for within the community. Although 'Jack' and 'Jenny' are typical of the growing number of clients who are being assisted in their homes, they may not be entirely representative of the range of clients being cared for in the community. Thus, further research should be undertaken with other client cases to validate the hazards / risks identified in the workshops.

A second limitation is that the model was developed with Scottish healthcare professionals. It is noted that National culture factors may affect risk perception (Viklund, 2003). Thus, further research should be undertaken with community healthcare professionals from other countries to determine if the findings of this research can be replicated across cultures. Whereas the HASAWA (1974) is an all encompassing Act and has no territorial boundaries and the NHS, by statute, is a National Service throughout the United Kingdom, the organisational factors around the operation of Healthcare and Social Services are managed in a different way depending on which part of the country a person is living and being cared for. NHS and Community Care Act 1990, (England and Wales), NHS Act 2006 (England), NHS (Wales) Act 2006. The actual principles of health and social care are applicable throughout the United Kingdom. The European legislation on Manual Handling 90/269/EEC covers member states of which, at present, the United Kingdom is one. Specific legislation, The Manual Handling Operations Legislation 1992 (as amended 2002) was enacted in the United Kingdom to implement the terms of this European Directive. This document clearly states the procedures that should be adopted when carrying out manual handling tasks. For example, make a suitable and sufficient risk assessment of a manual handling task. Eliminate, substitute or control manual handling tasks and reduce or remove the risk of injury from these tasks to the lowest reasonably practicable level based on a risk assessment. Therefore, it is suggested that the details relating to moving and handling of a client discussed in this research and evidenced in the research model can be applied to different countries and worked into their specific system of delivering care in the community.

In the United Kingdom, healthcare professionals are registered with their National Organisations, RCN, COT, CSP, with some of them extending their knowledge and skills on safety and risk management to membership of the Institution of Occupational Safety and Health (IOSH). If this study was being conducted in other parts of the United Kingdom the guidance and information from these professional groups would apply. Advice and support from National Interest Groups, National Back Exchange (NBE) who operate national events but who also have regional groups which recognise the range of moving and handling activities that happen in local area health authorities, social work/services, education and the third sector.

The models of training, the content and the duration of training courses offered to healthcare professionals and carers may vary across the country. Through continuing professional development programmes, HCPs should be updating regularly their moving and handling training and applying their risk assessment skills and knowledge when dealing with complex cases in their working practice. CSP (2008), COT (2006).

It is expected that professionals undertaking the case study workshops evidenced in this research would be able through the advice offered by their professional associations, through their general education and training and any specific moving and handling courses, to apply the findings of this research using the Personas, Level Descriptors and Manual Handling Risk Assessments to their existing working practices. The medical conditions and the presenting hazards and associated risks are indicative of complex cases and generalise to all countries. Simon et al (2008). The World Federation of Occupational Therapists has produced a document aimed at entry level competencies for Occupational Therapists. The findings provide evidence across member countries of a consensus in the key areas and core elements of competent practice of a therapist. (WFOT Strategic Plan 2007-2012). Likewise, Physiotherapists, University of Toronto, Canada, through collaborative education enhanced their clinical competence by working with their peers on patient evaluation, professional behaviour and other key areas of clinical education and development. PHYS THER (1993).

The model developed in this research recognises that there may be national differences in the way in which moving and handling is managed. However, the principles of moving and handling, the competencies of the professionals undertaking the assessments and the legislation to guide the way in which moving and handling is administered are broadly similar. The conditions highlighted in this research are present worldwide and in common with the evidence from WFOT. Simon et al., (2008) argued it is possible that this research could generalise wherever practitioners are involved with clients who present with MS, Obesity, CP or CVA.

10.9 Recommendations and Areas for Future Research

It is suggested that this research has taken the role of MHRA in the community to a different theoretical and practical level based on the discussions, interviews and validation meetings with HCPs. The format of this particular research, using case study based workshops, think aloud sessions through to interviews and the creation of level descriptors does not appear to have been part of any identified NHS or Social Work/Services training courses. Perhaps training divisions within health and social care could consider the course content and develop their community education programme on moving and handling using the findings from this research. To validate the research findings a sample of the participating HCPs were interviewed and along with two of the facilitators their comments were noted and used to support the research outcomes. The programme of study has been presented to groups of HCPs, Safety, Risk Professionals and their comments and opinions noted in evaluation documents. This allows the systems of work and the processes of the training to be reviewed. The use of the narrative and the associated photographs could be used in handling plans to easily explain how the equipment operates alongside and in conjunction with other assessment documents relating to the client.

The assumption that HCPs will be a qualified and knowledgeable risk assessor has been challenged in this thesis. It is suggested that the view that a HCP will have received education and training in risk assessment needs to be further researched. It is evident that risk assessment is part of a HCPs role irrespective of their experience.

It is for further research to consider if HCPs should be academically taught detailed risk assessment alongside their other clinical modules. In doing so it may be that they could adequately deal with the involvedness of a clinically complex client in the community. A further option could be the use of the IOSH course (2016) in risk assessment as the entry level qualification for all healthcare professionals involved in risk assessment. IOSH is the internationally recognised professional body for health, safety wellbeing and risk management. Similar to the Scottish Manual Handling Passport Scheme (2014), the education and training standards from such IOSH courses perhaps could be adopted by the Health and Social care professionals as the best practice for undertaking their risk assessment based work. It is suggested that this research has developed the process for identifying the relevance of clinical reasoning in a MHRA by a HCP when dealing with a client with complex needs in a community setting.

10.10 Questions for Further Research

There are a number of theoretical implications of the model which pose questions for further research. The first implication has to do with safety culture. Reason (1997) argued that an informed culture was to all intents and purposes a safety culture. He proposed that a safety culture could be socially engineered by developing the sub-components of a reporting culture, just culture, learning culture, and flexible culture with respect to a safety information system. In community care, the safety information system is the manual handling risk assessment. The model developed throughout this thesis may then have the potential to extend Reason's (1997) model of safety culture by considering how the organisations involved in providing care in the community become 'informed' about the risks associated with manual handling tasks.

Based on this research further analysis may consider the extent to which healthcare professionals use Non-Analytic Reasoning / Recognition-Primed Decision-making in MHRAs and how this is associated with better clinical outcomes for clients and carers using the details in the existing case studies, Minda (2015).

There is already some evidence to suggest that MHRAs are related to the safety culture of an organisation. For example, Hignett (2001b) found that manual handling risk assessments were associated with a safer working environment in an English hospital over a five year period. Similarly, but in an industrial context, Burgess-Limerick et al. (2007) found that the use of MHRAs by coal miners led to them taking suitable controls resulting in a reduced number of manual handling incidents.

Another theoretical implication has to do with the use of Non-Analytic Reasoning Norman et al., (2007) or Recognition-Primed Decision Making, Klein (2008) in MHRAs. The model assumes that as one moves from Novice to Expert, Non-Analytic Reasoning / Recognition-Primed Decision Making will develop as a function of experience. With respect to 'Jenny', her weight and her small home environment are likely to provide salient cues to a risk assessor. According to Recognition-Primed Decision-making Klein (2008), these cues may be matched to a similar client case from memory, which will then influence the action taken. Klein (2008) pointed out that a further stage of Recognition-Primed Decision-making has to do with comparing options and the notion of satisficing. In Jenny's case, the risk assessor may select the most workable, short term options rather than the best possible option, which may involve adapting her home environment and providing more appropriate assistive technology equipment. It is not clear from this research, the extent to which healthcare professionals use Non-Analytic Reasoning / Recognition-Primed Decision-making in MHRAs, and if that is associated with better clinical outcomes for clients and carers. Thus questions for further research are;

To what extent do healthcare professionals at different stages of clinical expertise use Non-Analytic Reasoning?
Does Non-Analytic Reasoning in MHRAs improve clinical outcomes for clients and carers?
What is the role of MHRAs in the safety culture of community care organisations?

10.11 Generalisability of Findings beyond the Study Context.

The proposed research model can be generalised to explain how expertise in risk assessment (in any context) develops – it develops through experience which leads

to the use of Non-analytical Reasoning – this fits with what is known about the use and development of clinical reasoning in medicine. There is limited evidence about how a person develops expertise in risk assessment. Research which can be applied to a broad spectrum of settings should be able to generalise. Altman and Bland (1998) p409-410 consider generalisability of research to mean that the research findings from a study can be used in other locations from the original setting where they were tested. Validity of the research is considering whether the subject under discussion is true. Dealing with bias and chance are two main areas of threat to the validity of the study. Research can be internally valid: where it deals with the true situation within the setting of the study or externally valid; if it looks at the key facts that are outwith the main setting of the discussion and data collection. That is, the way in which conclusions can be generalised to other individuals, organisations and group settings. Gray (2010) p515. The use of participation validation interviews has significantly assisted in determining the accuracy of the workshop think aloud sessions, the outcomes of the semi structured interviews and the five themes that were developed in the level descriptors. It has been suggested that this information can generalise equally to the acute and the community setting. For one facilitator, "this case study/workshop approach as much as it was written for the community would work within the acute sector as well." (Health Care Professional and Facilitator 2015). GREAT Study, Altman and Bland (1998) considers the validity and generalisability of prehospital thrombolysis undertaken by GPs in Grampian versus in-hospital thrombolysis. Grimmer et al., (2003) cited in Higgs et al., (2012) p313 consider the validity of appraising guideline quality in healthcare and its effectiveness and credibility in different services.

This research has returned to the participants and asked in proper interview settings relevant validation and generalisability questions about the use of the data. Previously cited examples (Chapter 8) explain this process and confirms the applicability and use of the findings in different settings. The narrative and the set of photographs, the use of personas are further evidence based outcomes that reflect the generalisability of the research work. Their link to the research model was developed on the perceptions, decisions and the communication of the participants at the different stages in the MHRA process.

Generalisability of clinical research is evident in tissue viability studies. Gould et al (2001) used case studies to determine the validity of three pressure ulcer risk assessments and looked at how this generalised to clinical nursing activities and practice throughout the UK. They considered the education and training involved in the nurses who participated in the study in the use of simulation to gather the data. Bernhardt et al., (2015) BMJ consider the potential 'threats to generalisability in a large international trial, A Very Early Rehabilitation Trial (AVERT). p1-12 This research considers randomised control trials relating to intervention strategies. There is discussion around internal and external validity of such research and the observation that "the results of a study can be generalised to other situations and to other people, is often under-recognised, under-reported and undervalued." This study concludes that their findings will generalise but that other researchers will have to consider the impact of other variables. This research undertook a pilot programme using experienced HCPs to establish the validity of the research and in doing this across organisations and professions it was attempting to generalise the outcomes for use by HCPs in their compilation of MHRA relating to the complex needs of clients in the community.

Altman & Bland (1998) suggest that generalisability in research is enhanced when:

- Using broad inclusion criteria (case studies, HCPs as participants from different organisations)
- Maximising the sample size (77 professionals)
- Provision of special training: (the use of the Five Steps to Risk Assessment, protocol from HSE, SMHF, NBE, HOP6)

The validity of the research study is maintained by:

- Careful follow up of participants (member checking/participant validation interviews)
- Careful recording of [participant] recruitment and selection (via the Facilitators to avoid bias or particular reasons for inclusion or exclusion).

Questions following on from the practical implication of this research comes from the Public Bodies (Joint Working) (Scotland) Act 2014, requiring that health and social care in Scotland become integrated. This process extends and is an objective of the NHS/Social Services in the UK. The impact of this legislation on organisations providing community care is largely unknown. This presents a research opportunity to investigate further questions about MHRAs in community settings like;

Can MHRAs be used to integrate health and social care in community settings?

Hopson (2013) citing House, Department of Health, p8/9 looks to International Best Practice to explain eleven steps which are common in the integration of health and care systems. It is suggested that there are several of these steps which could use the research model to standardise training and processes and involve HCPs in the integration of MHRA in community settings.

- Multidisciplinary teams built round primary care practitioners
- Use of risk stratification and proactive assessment and care planning
- Single electronic care record with patient access/interaction
- Both integrated commissioning and integrated provision
- Same incentives across system outcomes, process, user experience, value for money

The provision of an integrated service has at its core the improvement of services and outcomes for users. This research has argued that one MHRA that follows a client from the community into and out of the acute sector and back home is a desired safety and risk managed objective covering risk assessment, clinical reasoning and competencies. One MHRA built into the care management system that can be accessed, adapted, reviewed and updated using a single electronic data system is a benefit to the client as well as those delivering the person's health and social care.

Based on the US models Evercare and Kaiser Permanent there is the NHS and Social Care long term conditions model (2005) that considers the process that

Health and Social care may adopt to deliver an integrated approach to long term care by a locality. There is a suggestion that multi professional teams adopting an integrated approach to patient care will assist in bringing together health and social care in a consistent and structured way.
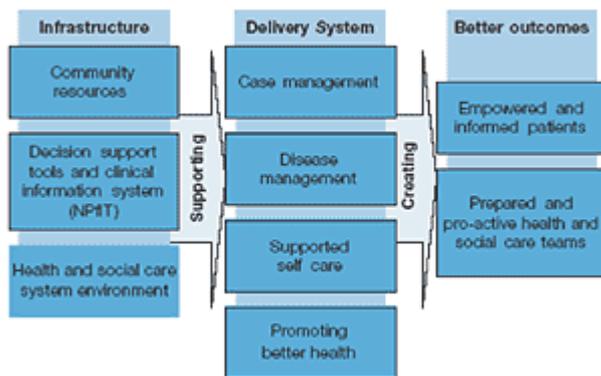
Figure 10.3 The NHS and Social Care Long Term Condition Model (NHS Modernisation Agency, 2014).

The generalisability of the four case study clients could be used across care givers to explain the MHRA associated with the four specific conditions shown in the Personas, contained potentially in a case based reasoning library and highlighted in the narrative and photographs that emerged from the workshops and interviews. This detail, already validated by participants, could potentially be adapted to meet the training needs of healthcare professionals at different competency levels as well as being of use to training providers for social care and support workers.

Given the uncertainty for community care organisations around the integration of health and social care in Scotland and throughout the UK, it may not be the case that community healthcare professionals will continue to conduct MHRAs. This raises possible questions like;

What are the skills, competencies, and training requirements for conducting MHRAs in community settings with integrated health and social care?

In a healthcare setting it is desirable that Healthcare professionals are involved in the compilation and signing off of a MHRA (Ruszala & Alexander 2015). CSP citing the National Audit Office (2003) recommend that all health boards should aim to have competent people accredited by the Institution of Occupational Safety and Health (IOSH) where they are involved in daily safety activities. It is also recognised that 75% of Occupational Therapists acknowledged in a survey around AT equipment that "there is not enough collaboration between healthcare professionals and specialist manufacturers." AT Practitioner Spring (2015).

The professions allied to medicine recognise that those carrying out risk assessments on patients require to be competent in undertaking this work. Traditionally, healthcare professionals are the key people involved in doing these assessments. However, as changes to the delivery of health and social care are developed, it is important that MHRA are carried out by qualified and competent assessors. It is possible that not all healthcare professionals are working on complex cases and are familiar with all the details in a MHRA. There may be people who have these skills who are not HCPs but who perhaps are able to assist the HCPs as qualified safety practitioners (IOSH) who are risk assessors, (ROSPA/IOSH) and could play a key part in ensuring that safety factors are adhered to in MHRA in community settings. The collaboration described previously by the occupational therapists and the role of the trusted assessors working for an equipment manufacturer may be a positive way of developing this joint approach to MHRA of clients with complex needs living at home. There is the potential for collaboration between HCP bodies (RCN, COT, CSP) industry associations BHTA/HATs and professional safety practitioners (IOSH) whereby the process and procedures for signing off a MHRA could involve the necessary professional people but where the HCPs continues clinically to take the ultimate responsibility under their duty of care to the client.

10.12 Conclusion

This thesis set out to investigate the role of clinical reasoning in manual handling risk assessments in a community setting. It was appropriate to undertake this research given the growing number of clients being cared for in community settings, and the

lack of research on clinical reasoning in this area. It developed a model based on the data collected by investigating three research questions. This information which integrated the 'Five Steps' to risk assessment and the clinical reasoning cycle through the processes of risk perception, risk decision-making, and risk communication. Level Descriptors were developed based on the analysed data. The model specifies that healthcare professionals should consider the client's medical condition, equipment, home environment, case complexity, and community care package when using clinical reasoning in MHRAs. It also specifies that clinical reasoning in MHRA develops through stages of Novice to Competent to Expert as a function of experience. There are a number of theoretical and practical implications associated with the model. The thesis recognises that there are some limitations to the model; the number of case studies chosen, the geographical study area in Scotland and the localised policy, procedures and practice by health and social services. However, despite these limitations it is argued that the research generalises to community settings nationally and perhaps further afield. Although there are many outstanding questions and challenges to managing risk and providing safer care in community settings, this dissertation has taken a step towards that goal.

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Appendices

1. NHS Scotland Manual Handling Passport & Information Scheme

Guidance for Manual Handling Risk Assessments

1. Risk Matrix

Risk management is the systematic identification, assessment and reduction of risks to staff, patients and others who may be affected by the Organisations work activities. It is important to recognise and understand that risk cannot always be removed completely from the workplace.

This is especially prevalent within the health service where many activities involve a degree of risk. However, these risks have to be managed and controlled. Therefore good risk management should, wherever possible, enable tasks to be undertaken safely, controlling risks within tolerable or acceptable levels, rather than prohibiting activities.

There are also legal duties requiring Organisations to assess and manage the health & safety risks arising from its activities. These risk assessments must be both suitable and sufficient. The law does not expect the elimination of all risk, but Organisations are required to protect people as far as is 'reasonably practicable'.

What is Risk?
In a health & safety context **Risk** is the chance of a hazard causing harm, together with an indication of how serious the harm could be.

Risk = Likelihood x Severity (Impact, Consequence)
NHS Scotland uses a simple colour coded risk matrix to calculate the level of risk and to assist in clarifying the need for remedial action and the urgency of such measures.

2. Risk Matrix

Green: Risk is well controlled; precautions are sufficient and reliable.

Yellow: Risk is acceptable but of concern. The combination of the severity of the consequences and the likelihood indicates that although improvements would be desirable, serious adverse effects are unlikely.

Orange: Risk is unacceptable. Remedial action is necessary.

Red: Risk is unacceptable. Remedial action is urgent; consider stopping the work or task until the risk can be reduced.

Likelihood		Impact/Consequence				
		Negligible	Minor	Moderate	Major	Extreme
		1	2	3	4	5
Almost Certain	5	Medium	High	High	V High	V High
Likely	4	Medium	Medium	High	High	V High
Possible	3	Low	Medium	Medium	High	High
Unlikely	2	Low	Medium	Medium	Medium	High
Rarely	1	Low	Low	Low	Medium	Medium

Likelihood

Almost certain	this is expected to occur frequently in most circumstances; more likely to occur than not.
Likely	strong possibility that this could occur; likely to occur.
Possible	may occur occasionally, has happened before on occasions; reasonable chance of occurring.
Unlikely	not likely to happen but definite potential exists; unlikely to occur.
Rare	can't believe this event would happen; will only happen in exceptional circumstances.

Impact / Consequences

Extreme	Incident leading to death or major permanent incapacity.
Major	Major injuries, long term incapacity or disability requiring medical treatment or counselling.
Moderate	Significant injury requiring medical treatment and / or counselling.
Minor	Minor injury or illness requiring first aid, minor treatment.
Negligible	No injury or minor injury requiring no first aid or treatment.

2. Pilot Invitation

From: KD
Sent: 15 June 2011 16:08
To: NF; RB; AM;KB; CB
Cc: kenneth munro
Subject: Pre-course information - Hoists, Chairs & Shower Equipment: Making them work together

Dear Colleagues

Thank you for agreeing to participate in the above pilot training course which will run on **Thursday 23rd June from 10.30am- 3.30pm.**

The course will be held at W Munro premises in Clydebank *(8-10 Dunrobin Court, Clydebank Business Park, GLASGOW, G81 2QP)* from 10.30am- 3.00pm. I have attached a copy of the course outline for more information. The session will be in the format of 4 workshops looking at how different pieces of equipment work together, the workshops will use some case study examples.

I have attached the three case studies plus the course outline for your information. In preparation for the course we ask that you take time to read over the case scenarios and consider the questions posed on the last two pages of each one. Each workshop will focus on a different case study considering the evaluation of current equipment, management processes and possible equipment solutions. The format will be highly participative and involve group discussion and an opportunity for some hands-on practice with equipment.

I would appreciate it if you could confirm your attendance by reply to this e-mail. If you have any questions about the study day please do not hesitate to contact me at the number below.

Looking forward to seeing you all next week

Learning and Development Advisor

Workforce Planning and Development

Health and Social Care,

Level 1.7, Waverley Court,

4 East Market Street, Edinburgh, EH8 8BG

T: 0131 529 6488 (56488) F: 0131 529 6217

SAVE PAPER - please do not print this e-mail unless absolutely necessary

3. Pilot and Workshop Aims and Objectives

HOIST, CHAIRS, AND SHOWER EQUIPMENT, MAKING THEM WORK TOGETHER

Title: Hoists, Chairs and Shower equipment; making them work together

Audience: Occupational Therapists

Aims:

This practical workshop will provide participants with an opportunity to explore and consolidate their knowledge of a range of equipment currently provided by the Community Equipment Service. Through applied case study examples it aims to improve participants confidence of various pieces of equipment and how they can be used together to ensure service users receive the most appropriate piece of equipment to meet their needs. The workshops will highlight how the Manual Handling Risk Assessment can be used as an integrated decision making tool when assessing the need for equipment.

Contents:

By the end of the course participants will be able to:

1. Discuss how various pieces of equipment and accessories can be used individually and how they interact to ensure the service user's needs are met.
2. Describe how the manual handling risk assessment can be used as a decision making tool when assessing the need for community equipment.
3. Confidently explain their clinical reasoning for recommending a particular piece of specialist equipment.
4. Demonstrate the safe use of hoists, specialist chairs and shower chairs to other participants on the course and the most appropriate manual handling techniques for assisting a service user to move between equipment in their own home.
5. Discuss the use of written or pictorial instructions on using specialist equipment when assisting a service user with transfers.

Pre course exercise:

Please take time to read and familiarise yourself with the case study. Once you have read the case study if possible please complete the attached answer sheet and bring these with you to the course.

When considering the case study, think about how you would approach the scenario as the lead Health Care Professional. During the course you will work in groups to make recommendations for your case scenario to other participants.

4. Pilot and Workshop Programme

Hoists, chairs and show equipment Making them work together - Facilitators Notes.

Session	Time Required	Learning Outcome	Content	Person Responsible	Materials Required
Introduction	9.30am 30minutes	LO1	• Welcome & Housekeeping • Aims & Objectives • Programme • Pre-course evaluation • Overview of the equipment resource pack and the equipment available for the case scenario workshops	Kenneth Kenneth	Pre-course evaluation Equipment resource pack Maintenance and Review Handout
Overview of Case Study	10.00am 30minutes	LO2	• Split into 2 groups providing each group with a case study (either bariatrics or Standaid) • Read and discuss initial thoughts on the case study. The group should complete the following sections of the risk assessment: • Purpose of the assessment • Environment • Is the current equipment suitable? • If not why not? • Hazards identified • Risks identified • The purpose of this session is to give the groups time to discuss	Kenneth	Case study 1&2 Case study answer sheet

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Hoists, chairs and show equipment: Making them work together - Facilitators Notes.

Page 2 of 3

Session	Time Required	Learning Outcome	Content	Person	Materials Required
Practical Problem Solving	10.30am To 12 noon	LO4	• Each group moves into the equipment area for their case study and has time to familiarise themselves with the current situation as described in the case study, note other risks identified or issues with equipment use. • The aim of this session is for the group to come up with a list of recommendations for the Manual Handling Risk Assessment and give reasons why they are making these recommendations. • The recommendations may include provision of a new piece of equipment, accessories or alternative techniques. • Each group should complete their "recommendation sheets" with clear reasons for their decisions. • Recommendations should include timescales and how they will plan for future changes. • Advise the groups that they will need to feedback to their colleagues after lunch, they may wish to talk through the scenario, use the video camera to record alternative techniques or carry out a "live demonstration"	Kenneth to facilitate discussion and ensure both groups are able to complete their recommendations sheet	Recommendatlon sheet Equipment required for each case study Digital camera
			Lunch 30minutes		

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Hoists, chairs and show equipment: Making them work together - Facilitators Notes.

Page 3 of 3

Session	Time Required	Learning Outcome	Content	Person	Materials Required
Sharing Solutions	12.40 90minutes 215pm Short break	LO3&5	Ask each group to share their recommendations for each case study covering the following points: • Hazard identification • Risks identified and their ratings • Service user outcomes • Recommendations and explanation of the reasoning process. Facilitators should refer to the completed/worked examples of the answers sheets to facilitate the discussion. Encourage the group to think about how they would ensure all involved in using equipment would have adequate information and guidance to use it safely.	Kenneth	TV screen/Digital camera & cable Extra copies of case studies and completed answer sheets
Accessories Workshop	2.45pm to 3.45pm	LO1	• Shower chair accessories for appropriate supporting surfaces. Explain and fit four point belt. Head supports, support surface from shower chair seats. Aperture, horseshoe and side opening. Pommel, height adjustable and extended arms, Angle adjustable footrests. • Kirton chairs. Back, seat width and depth adjustments. Arm height alterations and positioning of thoracic. Fitting and adjusting four point belts. • Quick deluxe style slings	Kenneth	• Freeway T80 • Kirton Duo • Accessories as noted for seating systems. • Appropriate sizes and versions of the Quickfit deluxe style sling
Final Questions & Evaluations	4pm l5minutes		Take note of any final questions, complete and collect evaluations. Kenneth to explain current research	Kenneth	Evaluation forms

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5. Hazards Identified by Pilot Group for the Jack case study

Group / Hazards	Partially weight bearing	Extensor spasms	Fatigue and weakness	Poor memory	Current method of wheelchair transfer	Poor fine motor control	Minimal supervision and support when doing wheelchair transfers	Verbal aggression	Reluctance to accept care and support	Skin condition

6. Hazards Identified by Pilot Group for the Jenny case study

Group / Hazards	Weight of client	Fatigue and weakness	Body shape and size	Equipment	Equipment SWL	Limited ability to assist in transfers	Twisting / turning in moves	Environment	Attitude to carers	Skin Integrity	Mood

7. Case Study: Jack Smith. Part 1.

Client Name:	Date of Birth:
Jack Smith	21/05/1961

Summary of Personal Circumstances:

Jack is a 50 year old single man who gave up his work last year. He has MS and spends most of his time at home. He doesn't socialise easily and all attempts to encourage him to attend the local MS group have been turned down.

He transfers from chair to chair and bed to chair in a very unconventional sideways move. He doesn't use a transfer board but prefers to pull himself across using the opposite wheelchair arm. One carer visits twice a day to provide minimal assistance and supervision when Jack is transferring.

Recently the carers reported that Jack has been complaining of weakness/fatigue after he has transferred. He fell twice in the last two weeks and has required to be hoisted. The carers used a manual mobile hoist to lift Jack from the floor, this required excessive effort on the part of the carers. The carers also found it challenging because Jack is very resistant to being moved in the hoist and would have preferred the carers to bodily lift him from the floor.

Consideration has been given to a standaid hoist and sling, but Jack feels that any hoist would be a regressive step. However, due to his falls he has agreed to a hoist of some kind for transfers when he feels fatigued. He can be very particular about which carers hoist him, and has been know to be verbally aggressive with certain carers. The District Nurse has explained to Jack that a review of his manual handling is required but he is reluctant to participate in any official processes and procedures. The District Nurse also has concerns about his skin integrity on his sacrum.

Client/Carer View of current situation:

Jack is reluctant to consider any type of hoist to assist him with transfers. He feels that this will remove his independence. Jack also states he does not require assistance from the home carers and only reluctantly agreed to the package of care after his friend, who previously helped him around the house, moved away.

Profile of Client
What health problems does the person have? MS – first diagnosed in 1982
What is the person's physical status? Height – 6ft (1.83m), Weight – 11st 7lb   Jack is able to turn himself in bed using the bed rails on his hospital bed. He requires assistance to sit up in bed, but once upright is able to sit independently on the edge of the bed. Jack has good grip strength in both hands, he has some difficulty with fine motor control particularly when he is tired. Jack often experiences extensor spasm when carers try to move him in bed and when attempting to apply the hoist sling.

Is the person able to weight bear?					
Fully Weight Bear		**Partially weight bear**	**x**	**Unable to weight bear**	
Does the person use walking aids?					
Yes *(give details)*				**No: x**	
Is the person cooperative?					
Yes:	**No** Jack can be verbally aggressive with carers, he is reluctant to accept assistance of carers or to use equipment.				
Is the person unpredictable?					
Yes *(give details)*				**No: x**	
Is the person able to follow instructions?					

Yes	No *(give details)*
Jack is able to follow instructions from carers and also indicate pain and discomfort during care tasks.	

Does the person use any attachments (e.g. catheter, drips, dressings, prostheses)?

Yes	No:
Jack has an indwelling catheter, he is keen to manage this independently but sometimes has difficulty changing and emptying his catheter bag because of his deteriorating fine motor skills.	

Can the person assist with transfers

Yes	No *(give details)*
Jack is able to move himself forward in his chair and grip standaid or arms of chair/wheelchair. He is able to stand for short periods of time (approximately 1minute) with assistance of 1 person.	

Can the person communicate discomfort/pain?

Yes: x	No *(give details)*

Is height and/or weight problematic?

Yes *(give details)*	No: x

Are there skin problems (e.g. pressure sores; wound sites)?

Yes	No:
District Nurse is concerned about skin integrity in the sacral area.	

Are there muscle tone issues (e.g. spasm, seizures, involuntary movement)?

Yes	No:
Jack often experiences extensor spasm when carers try to move him in bed and when attempting to apply the hoist sling.	

Equipment in situ

- Transit style wheelchair 17in x 17in (43cm x 43cm) – issued by wheelchair service.
- Powered wheelchair for outdoors – issued by wheelchair service.
- Standard polyurethane foam cushion with a PVC seated cover – issued with his wheelchair.

- Height adjustable high seat chair with fixed cushion.
- Height adjustable hospital bed, silicore mattress, no profile.
- Mobile manual hoist and sling – not used, in place just in case Jack falls.
- Standard 17in wide attendant propelled shower chair.

Purpose of Assessment

Why would you complete a moving and handling risk assessment for Jack?

1. The department has a legal duty to risk assess hazardous manual handling if it cannot be avoided.
2. To identify the risk, discuss and agree more appropriate methods or solutions to assisting Jack to move.
3. To ensure that all the significant hazards and risks are addressed and documented.

What areas would you assess and why?

1. Load
2. Individual Capability
3. Task
4. Environment – including a review of current equipment and how it's used
5. Full functional assessment of Jacks abilities and cognitive function, including an understanding of Jack's daily routines.

What do you want to achieve by completing the manual handling risk assessment?

To identify the risks present and implement safe system of work that is acceptable to both Jack and the carers and meets legal obligations. In short to reach a balanced decision that considers workplace health & safety and respects the individual's needs and human rights.

Environment

From the case study information make some notes on the sort of things you would need to consider in relation to Jack's environment and moving and handling difficulties.

- Space constraints
- Flooring – is it uneven, slippery, changes level
- Temperature
- Working height
- Lighting
- Equipment

Problem Areas

What impact will Jack's condition likely have on his function now and in the future?

Present – Extensor spasm, retaining verbal information, motor control, fatigue and weakness, partially weight bearing

Future – Deterioration in overall condition but with unpredictable timescales. Maybe lose the ability to weight bear.

Is the equipment currently in place suitable? If not why?

No, the equipment needs reviewed.

Jack doesn't go out. Review his power chair needs and use and assess his ability to use this item of equipment.

Consider a rise recline chair to assist his function, ability and mobility. Potentially trial a chair.

Potentially change his bed to a height adjustable profile bed.

Review his hoisting and consider the different options and the slings

What other information do you need to make recommendations?

How are personal care tasks completed?

From the information provided in the case study what manual handling hazards are present? Part 2.		
Using all the headers a blank version of these documents was used by the participants at the workshops		
1. Partially weight bearing	2. Extensor Spasm	3. Fatigue & weakness
4. Poor memory	5. Current method of wheelchair transfer	6. Poor fine motor control
7. Minimal supervision & support for wheelchair transfers	8. Can be verbally aggressive	9. Reluctant to accept care & support

What risks are present and what risk rating would you give them (Low/Medium/High/Very High)?	
1. Risk of falls when transferring to and from wheelchair.	**medium**
2. Risk of carer injury when assisting to sit up in bed, particularly if jack has severe extensor spasm in the morning.	**medium**
3. Risk of injury to carers and Jack when hoisting from floor as manoeuvre has required excessive effort in the past	**medium**
4. Risk of skin breakdown in sacral area	**medium**

Desired Outcomes: Make a note of the outcomes you would like to achieve with this client.

- For Jack to be able to continue transferring independently with minimal assistance for at least 1 transfer each day.
- For carers to be able to assist Jack with chair and bed transfers safely and in a manner that is comfortable for him.
- To prevent any further falls at home.
- For Jack's skin integrity to be improved and maintained.

What recommendations would you make and why?

In Jack's situation there is the need to plan for now and also to have in place a staged introduction to other equipment as his condition changes. There are signs that he is in a transition stage, falls when transferring and reluctance to accept changes in his abilities.

Current recommendations:

- Pillow lift/ mattress variator to assist in the sit up in bed. Raised head end giving possible support when rotating to sit at the edge of the bed and remove the need for carers to assist him from lying to sitting. Consider whether AT equipment with leg brace may be suitable method of breaking extensor spasm.
- Height adjusted seat is suitable currently but may not be in long term. Consider trying a rise recline chair to see if this will assist in making his standing up more stable and uniform.
- Discuss with the DN his pressure scoring and ensure that the most appropriate anti pressure cushion is provided. Link the use of this cushion to the seating i.e. seating solutions used in chair can be transferred to wheelchair and shower seat.
- Use the Freeway assessment sheet to decide on the most appropriate shower/commode seat. Choose the accessories and ensure that he has pelvic and thoracic support. Consider the space required in the bathroom, hall and bedroom, if this chair doesn't work and a more advanced tilt in space shower/commode chair with accessories is required.
- Consider assessment with a transfer board for chair to chair transfers. How do you determine what level of risk is acceptable?
- Discuss and review the hoisting. Introduce as an assessment a Standing hoist and sling. He should be able to assist in this process. Plan carefully its use along with the most appropriate sling. Start with a standing sling. Ensure that the standing hoist works with the other equipment, that is wheelchair, bed, chair and shower chair. Consider introducing a lifting cushion for lifting from the floor in emergencies. Is this required if the other items of equipment work? Consider if the manual hoist is too laborious and uncomfortable for Jack and the Carers. Have a plan in place for a powered hoist if required.

Future recommendations: Jack's condition is changing and therefore in a relatively short period other equipment may be needed. What are the various inter related items of equipment? Have a plan ready.

Seating: Rise Recline chair. May need a more supportive chair with thoracic supports and the need to have an in built pressure cushion/s. May need pelvic support to maintain an appropriate sitting position. Consider how equipment and transfers could minimise the impact of his extensor spasm.

Shower/commode: If extensor spasm increases then a tilt in space shower/commode chair with accessories and pelvic support may be required. When providing equipment now, consider how future needs could be accommodated.

Bed: May need height adjustable profiling bed with specialised mattress to assist in pressure relief, functional positioning and when being hoisted.

Hoisting: Mobile hoist but consider the long term benefits and feasibility of CTH, also need to consider sling type and Jack's cooperation in moving from a standing hoist to a passive hoist. Consider whether the CTH hoist covering his bedroom along with a standing sling could assist him in his standing transfers. The same hoisting system will future proof his room if his condition changes. When do you need to start having these future planning conversations with Jack?

8. Case Study: Jenny Jones. Part 1

Client Name:	Date of Birth:
Jenny Jones	21/05/66

Summary of Personal Circumstances:

Jenny is a 45 year old woman who lives alone in a wheelchair accessible bungalow. Jenny was in a car accident in 1995 and suffered a spinal cord injury at T7/8. She is unable to get out of the house without support. In the past year she has only left the house for hospital appointments when a specially adapted ambulance was arranged. Jenny doesn't have any relatives that she keeps in contact with but she has a few neighbours who will help her with tasks such as shopping, paying bills and arranging minor repairs for the house.

Jenny has a number of medical issues including Type 2 diabetes and high blood pressure. She has a good relationship with her GP and he visits her at home every 2 weeks. He is keen for an increase in her package of care to support her at home. She currently has visits from 2 carers morning and night to help with personal care and transfers in and out of bed.

Her weight is a major concern. She is unable to move her legs because of her weight and reduced strength and is unable to transfer independently She has several pieces of equipment in the house which the carers have difficulty using, partly because of Jenny's weight and size but also because they find the equipment doesn't work well together. The carers have repeatedly raised concerns about moving and handling. Jenny has limited ability to assist with her care needs and has a changeable attitude towards all carers.

Jenny has an on-going sacral pressure sore and has poor skin integrity. The district nurse is monitoring this. The District Nurse is also involved for catheter and bowel management.

Client/Carer View of current situation:

Jenny experiences low mood and has been prescribed anti-depressants by her GP. She agrees with her GP that an increased package of care will help her to manage better at home, but is reluctant for more carers to be involved in her care. She does

not like to talk about her weight and can become weepy or angry when discussing her increasing care needs and the prospect of changing her home and routine.

Profile of Client

What health problems does the person have?

Paraplegia (T7/8) following a car accident in 1995

High blood pressure

Type 2 Diabetes

Low Mood

Bowel and Bladder problems

Poor skin Integrity

What is the person's physical status?

Weight – 29 Stones (184kgs) 5ft 7" (1.69m)

Jenny is easily fatigued and has variable sitting balance.

What is the person's mental status?

Jenny has no cognitive impairment and is able to make informed decisions about her health and care needs.

Is the person able to weight bear?					
Fully Weight Bear		**Partially weight bear**		**Unable to weight bear**	**x**

Does the person use walking aids?	
Yes *(give details)*	**No: x**

Is the person cooperative?	
Yes: x	**No**

Is the person unpredictable?	
Yes *(give details)*	**No: x**

Is the person able to follow instructions?	
Yes Jenny is able to follow instructions and indicate when she is in pain or discomfort.	**No(***give details***)**

Does the person use any attachments (e.g. catheter, drips, dressings, prostheses)?	
Yes x Indwelling Catheter	**No:**

Can the person assist with transfers	
Yes	**No** Jenny has limited ability to assist carers with care tasks

Can the person communicate discomfort/pain?	
Yes: x	**No** *(give details)*

Is height and/or weight problematic?	
Yes *(give details)* Jenny has a very high BMI and is considered obese. Her full body weight makes it difficult to move her in bed. There is also significant weight in her legs which makes it difficult to complete care tasks, use hoisting equipment and position appropriately in her chair.	**No:**

Are there skin problems (e.g. pressure sores; wound sites)?	
Yes Sacral pressure sore, DN's involved. Poor skin integrity below spinal lesion.	**No:**

Are there muscle tone issues (e.g. spasm, seizures, involuntary movement)?	
Yes No normal muscle tone below spinal lesion.	**No:**

Equipment in situ

- Powered wheelchair 23in x 19in (58cm x 48cm), tilt in space, elevating leg-rests.
- Integrated pressure relieving gel cushion.
- No suitable functional/postural management seating. Prefers sitting in wheelchair.
- Single hospital bed with SWL 20stones,4 way glide slide/lock-sheet, airflow mattress.
- Mobile hoist and sling.(There have been 3 attempts so far to get the right hoist and sling)
- Standard wide shower chair. Prefers not to use footrests

Purpose of Assessment

Why would you complete a moving and handling risk assessment for Jenny?

1. The department has a legal duty to risk assess hazardous manual handling if it cannot be avoided.

2. To identify the risk, discuss and agree more appropriate methods or solutions to assisting Jack to move.

3 To ensure that all the significant hazards and risks are addressed and documented.

What areas would you assess and why?

1.Load

2.Individual Capability

3.Task

4.Environment – including a review of current equipment and how it's used

5.Full functional assessment of Jenny's abilities, including an understanding of her daily routines.

What do you want to achieve by completing the manual handling risk assessment?

To identify the risks present and implement safe system of work that is acceptable to both Jenny and the carers and meets legal obligations. In short to reach a balanced decision that considers workplace health & safety and respects the individual's needs and human rights.

Environment
From the case study information make some notes on the sort of things you would need to consider in relation to Jenny's environment and moving and handling difficulties. • Space constraints • Flooring – is it uneven, slippery, changes level • Temperature • Working height • Lighting • Equipment
Problem Areas
What impact will Jenny's condition likely have on his function now and in the future? *Present* – Weight, low muscles tone below mid-chest height, affects sitting balance, not able to move legs or assist carers with care tasks, easily fatigued. *Future* - Pressure sore combined with potential complications related to her Type 2 diabetes may result in increased frequency of infections. If weight cannot be adequately managed potential to increase moving & handling issues, space constraints in the home and availability of suitable equipment. **Is the equipment currently in place suitable? If not why?** Already had difficulty in prescribing suitable hoist and sling. Hospital bed SWL is below Jenny's current weight. No suitable seating.   **What other information do you need to make recommendations?** How and where are personal care tasks taking place? How much space is there for bariatrics equipment in the house?

From the information provided in the case study what manual handling hazards are present? Part 2		
Using all the headers a blank version of these documents was used by the participants at the workshops		
1.Non-weight bearing	**2.**Jenny's weight – 29 stones (184kgs)	**3.**Fatigue & weakness
4.Variable sitting balance	**5.**Body shape & size	**6.**Lots of different pieces of equipment in the house
7.Limited ability to assist with transfers	**8.**Reluctant to accept more support and change home environment	

What risks are present and what risk rating would you give them (Low/Medium/High/Very High)?	
1.Risk of carer injury when attempting to complete personal care tasks.	**Medium**
2.Risk of carer and client injury when using hoisting equipment.	**Medium**
3.Risk of hospital bed failing because Jenny's weight is over the safe working limit.	**Medium or High**
4.Risk of pressure sores worsening or new sores developing because of unsuitable seating/postural management system.	**High**

Desired Outcomes: Make a note of the outcomes you would like to achieve with this client.

- For Jenny to receive appropriate personal care in comfortable and dignified manner, without carers or Jenny being put at risk of injury.
- For Jenny to feel safe and comfortable when carers assist her to move from her bed to wheelchair or chair.
- For Jenny to have a suitable seat for use during the day that will help to maintain her skin integrity and which she is happy to have in her home.

What recommendations would you make and why?

In Jenny's situation there are a number of immediate actions that need to take place in relation to reviewing the equipment currently in situ and whether the Safe Working Limit of the equipment is suitable for Jenny's weight. There are significant health needs including the management of her current pressure sore and the prevention of future skin breakdown.

Current Recommendations:

- Consider Environment: room layout and dimensions and weight-bearing suitability of the flooring, access, turning circle, door widths, threshholds.

- Provision of suitable profiling bed which can accommodate Jenny's weight and size.

- Review of current manual handling techniques used by carers, are there alternative methods of rolling Jenny in bed, moving her legs and applying her hoist sling that can be used to ensure she receives adequate personal care. Carers should receive written instructions on the best way to move Jenny and how to use the equipment in place. If Jenny is agreeable Photographs would be an effective method of demonstrating how to move Jenny and also what her end posture/position should look like.

- Review of care team providing assistance with a view to considering the number of people at risk and the frequency that they have to carry out care tasks with Jenny.

- Provision of a full room ceiling track hoist as this will remove the need for carers to use excessive force to move mobile hoist and position Jenny appropriately in to her wheelchair.

- Assessment of suitable slings – leg slings, turning sling would remove the need for carers to use excessive force when lifting her legs and turning Jenny in bed to attend to personal care tasks. Quick fit deluxe style would be required to hoist Jenny from bed to wheelchair and this would allow for potential removal of sling whilst seated in order to maintain skin integrity.

- Involve the MDT of HCPs to assess all her medical needs and make appropriate suggestions for managing her medical care at home.

Future Recommendations

- Review of all seating currently in place, and source potential suitable chairs which would support Jenny's weight as well as manage her pressure care and provide adequate thoracic support and leg support. This would require detailed joint working with District Nurses and equipment suppliers.

- Need to put in place a robust system to review suitability of equipment as Jenny's needs change and also a reliable system to monitor her weight.

9. Case Study: David Lawson. Part 1.

Client Name:	Date of Birth:
David Lawson	**21/05/03**
Summary of Personal Circumstances:	

Summary of Personal Circumstances:

David is a ten year old boy who lives at home with his parents. He has severe dystonic cerebral palsy. This was due to an accident at birth. His twin brother lives at home and is unaffected. David's needs are complex and extensive.

David requires assistance with all his daily living activities. This includes the management of his personal care, moving and handling, communication and feeding. He is doubly incontinent. He is non weight bearing and due to a recently inserted PEG feeding tube his family have noticed that his weight has been increasing. He is heavier to move and given that he cannot assist, everyone has been struggling to lift and then position him in his bed and other seating. His head and trunk control are poor, he has no sitting balance and it is difficult to achieve good postural positioning in seating and in his bed. This is further complicated by his high tone, strong extensor pattern and his involuntary movements.

He has constant problems with his asthma. When he has a cold or the flu it seriously compromises his breathing. He is being monitored for irregularities in his heart beat. He tires easily and has difficulty keeping up with any simple activities involving his brother, friends and other family members.

Care at home is with his parents, grandparents, other family and friends. There is little time for the family to act as a whole unit due to David's needs and his high level of care. When he is able, he attends a local SEN school on three days of the week.

Routine things like getting him ready to go out take a long time and invariably end up being cancelled or developing into an argument as everyone gets really stressed. Keeping him well is a very involved task. He is heavy (8 stones) and due to his spasms and his high tone moving him is very difficult. His seating needs are changing and his wheelchair and comfort chair are no longer giving him the correct postural support. His lying position in bed is poor and so he needs to be turned regularly at night. This is disruptive to him and his parents. His behaviour at night has become an issue as he is unsettled and potentially unsure of why people are moving him.

David does not have a hoist as his parents have preferred to lift him from bed to chair, chair to chair and on and off the floor. The OT and PT both at school and in the community have strongly recommended a mobile hoist and sling. They have discussed ceiling track hoisting in various rooms in the house. The family is still considering the options for moving and handling David. They are also thinking about some assistance from carers. They do not use respite facilities which have been offered and which are regularly discussed at review meetings.

There is GP, District Nurse and Social Work involvement in the house.

Client/Carer View of current situation:

The client is unable to communicate. All his needs are addressed by his parents Graham and Susan. They are concerned about meeting David's needs as he grows older and becomes more complicated to handle due to his many medical issues. David's parents are concerned that his brother Iain loses out due to the attention paid to David. They have mentioned on a few occasions how tiring it is to deal with David and to meet his needs.

Profile of Client

What health problems does the person have?

Severe Dystonic Cerebral Palsy from birth. Heart disorder, asthma. David is regularly

unwell due to his many health concerns.

What is the person's physical status?

Height – 5ft (1.52metres: 152cms) Weight 8 stones (51kgs)

David is totally dependent for all physical assistance.

What is the person's mental status?

David cannot communicate and is cognitively unaware of activities around or involving him.

Is the person able to weight bear?

Fully Weight Bear		Partially weight bear		Unable to weight bear	x

Does the person use walking aids?

Yes (give details)	No: x

Is the person cooperative?		
Yes:	**No. X**	

Is the person unpredictable?		
Yes *(give details)* **X** His extensor spasms and involuntary movement make it complicated to move and handle David		**No:**

Is the person able to follow instructions?	
Yes	**No(***give details***)** David can't communicate, is unaware of his surroundings and is therefore not able to communicate.

Does the person use any attachments (e.g. catheter, drips, dressings, prostheses)?		
Yes. X. David wears incontinence pads		**No:**

Can the person assist with transfers		
Yes		**No(***give details***)** **X.** David is non weight bearing.

Can the person communicate discomfort/pain?	
Yes: x Unsure what he means when he is crying or making noises	**No** *(give details)*

Is height and/or weight problematic?	
Yes *(give details)* **X.** He has gained weight after his PEG was fitted. He is growing in height and so his BMI is starting to cause concern for those moving and handling him.	**No:**

Are there skin problems (e.g. pressure sores; wound sites)?	
Yes	**No: X Not currently.**

Are there muscle tone issues (e.g. spasm, seizures, involuntary movement)?	
Yes: X Strong extensor pattern and involuntary movement	**No:**

Equipment in situ
- Cot bed, side rails and height adjustment option. Sleep alarm   - Wheelchair with moulded cushion and recline back. No tilt in space option   - Comfort chair with standard seat   - Feeding aids have been provided but are not required now   - Continence products   - Bath seat with manual adjustment

From the information provided in the case study what manual handling hazards are present? Part 2		
1.The whole process of keeping David well: It is involved and time consuming	**2**.Weight- no ability to assist	**3.**Spasms, high tone, involuntary movement
4.Physical Lifting and positioning into equipment	**5.**Lack of moving and handling equipment to undertake tasks	**6.**Pressure on David's skin. Lifting by carers. Turning and positioning in bed
7.Stress on the family undertaking all the care	**8.**Fatigue of family carers	**9.**Environment. Space for the equipment that is in use and for new equipment. Layout of rooms.

What risks are present and what risk rating would you give them (Low/Medium/High/Very High)?	
1.Whole process of keeping David well	**High/Very High**
2.David's increasing weight, inability to assist, physical handling and lifting	**High**
3.Equipment. Lack of appropriate equipment	**High**
4.Fatigue of family carers/stress	**High**
5.Environment	**Med/High**

Desired Outcomes: Make a note of the outcomes you would like to achieve with this client.

Review his current TILE assessment. Discuss outcomes with family

Identify key issues reported by the family. Discuss with HCPs a step approach to dealing with hazards and high risks

Look at respite care to the family "time off" caring for David. Consider options for assessing David in different environment. Possibly use equipment to move and handle David by school care staff and other HCPs.

What recommendations would you make and why?

To deal with the immediate situation as noted and build towards future recommendations to meet David's complex needs.

Package of care based on assessment of client's clinical needs. Undertaken by a MDT of HCPs

MHRA with a handling plan. Input of M and H team to follow MHRA and handling plan and to educate train the family in the use of equipment to allow them to see the benefits of the equipment. Review all the equipment to ensure that it is all compatible, correct size/dimension for user

Look at detail at the environment. Do an assessment to consider current and future needs. Client/carers/family/others.

Suggest discussion with an interest group, for example, PAMIS. Use their information data base, library and professionals to assist in any detailed discussion. Recommend contact with a family care officer or a member of their healthcare professional team.

Possible future recommendations:

Seating: Consider tilt in space (TIS) for moving and handling, offloading and postural positioning. Assess dimensions, materials, pressure relief

Shower/commode: Look at bathroom/wet floor area- appropriate equipment to carry out personal care, washing/drying/dressing. Trolley? Consider hoisting in this area

Bed: Review as a system for sleeping, support, turning and from which to hoist client

Hoisting: Consider CTH and appropriate slings for all daily activities. Try and future proof the equipment for change of condition, other equipment, room layouts and floor/bed/chair activities.

10. Case Study: Janice Brown. Part 1.

Client Name:	Date of Birth:
Janice Brown	21/05/54

Summary of Personal Circumstances:

Janice lives with her husband John, both are 57 years of age. They live in a council owned two bedroom, ground floor flat. They have one son who lives 25miles away and visits once or twice a week. There is a package of care in place, with two carers who visit 4 times a day to assist with personal care, toileting and all transfers. John works full time for a local business.

There is limited space in the house, the doors are very narrow and only just allow Janice's wheelchair to pass through. All of the rooms in the house have large pieces of furniture and there are several standing ornaments and lamps around the house. Janice and John are reluctant to move furniture or remove some of there ornaments to create space.

Janice had a stroke 6 months ago and has a right hemi-paresis affecting her right arm, which is sore and tender to touch.   She is unable to weight bear, has a right drop foot and limited range of movement in her knees. She has a very healthy appetite and because of her increased immobility has put on 2 stones since her stroke. She is sometimes incontinent when she does not get to the toilet on time.

Janice is hoisted with an electric mobile hoist and universal sling. In the hoist and sling she is very anxious and experiences pain in her hips and knees when being hoisted. Janice spends her mornings in her bed and the afternoon in her wheelchair or her armchair. Her husband has noticed that when in her armchair she is falling to the right. When she is hoisted into her chair she does not maintain a good seated position. She has slipped down and out of her armchair on one occasion when John was out at the shops.

She moves back to her bed at 8.30pm. She has some upper body strength and carers move her up the bed by pulling the bed sheet whilst Janice pushes on the bed rail with her left hand. Janice is limited in how she turns. She attempts this by using the bed rail to pull herself into side position.

Whilst bathing her, one of the carers noted a persistent reddening over her sacral area which the community nurse came in to evaluate and classified as a grade 1 pressure sore.

A social care OT is in the process of completing a client handling risk assessment following a request from the carers.   The carers don't feel they are able to use the current hoist and sling effectively because of the space and circulation constraints.

Client/Carer View of current situation:

Janice is frustrated at the lack of improvement in her function since she returned home from hospital. Both Janice and John are reluctant to change the layout of their home as they feel they have made enough concessions in allowing equipment to be used in the house.

Profile of Client

What health problems does the person have?

Stroke resulting in right hemi-paresis. She is hypersensitive to touch and temperature on her right arm.

What is the person's physical status?

Weight - 20 stones (125kgs), Height – 5ft 5" (1.67m)

Limited movement in her right arm and leg, some right sided weakness in her torso particularly when tired. Right drop foot.

What is the person's mental status?

Janice is able to make some informed decisions about her health and care needs. This can be variable.

Is the person able to weight bear?

Fully Weight Bear		Partially weight bear		Unable to weight bear	x

Does the person use walking aids?

Yes *(give details)*	No: x

Is the person cooperative?

Yes: x	No

Is the person unpredictable?

Yes *(give details)*	No: x

Is the person able to follow instructions?

Yes	No**(*give details*)

Janice is usually able to follow instructions and indicate when she is in pain or discomfort.	

Does the person use any attachments (e.g. catheter, drips, dressings, prostheses)?

Yes x Ankle-foot splint for right foot	**No:**

Can the person assist with transfers

Yes Limited ability to assist carers when moving up the bed by pushing on bed rails with left hand, can sometimes help with a turn in bed by pulling on bed rail with her left hand.	**No** *(give details)*

Can the person communicate discomfort/pain?

Yes: x	**No** *(give details)*

Is height and/or weight problematic?

Yes *(give details)* Janice has put on 2 stones since her stroke, she carries most of her weight around the middle making it difficult to fit the sling comfortably.	**No:**

Are there skin problems (e.g. pressure sores; wound sites)?

Yes Grade 1 sacral pressure sore. DN's monitoring and treating	**No:**

Are there muscle tone issues (e.g. spasm, seizures, involuntary movement)?

Yes Reduced muscle tone and strength in her right side as a result of her stroke.	**No:**

Equipment in situ
- Transit style wheelchair 17in x 17in (43cm x43cm) – issued by wheelchair service.   - Standard polyurethane foam cushion with a PVC sealed cover – issued by wheelchair service.   - High seat armchair with a foam seat pad positioned on top of the seat.   - Standard mattress on divan bed, universal raisers allow for hoist clearance and has easilever bed rail   - Mobile electric hoist with Universal sling.

Purpose of Assessment
Make some notes on the following questions **Why would you complete a moving and handling risk assessment for Janice?** 1. The department has a legal duty to risk assess hazardous manual handling if it cannot be avoided. 2. To identify the risk, discuss and agree more appropriate methods or solutions to assisting Janice to move. 3. To ensure that all the significant hazards and risks are addressed and documented. **What areas would you assess and why?** 1. Load 2. Individual Capability 3. Task 4. Environment – including a review of current equipment and how it's used 5. Full functional assessment of Jacks abilities and cognitive function, including an understanding of Jack's daily routines. **What do you want to achieve by completing the manual handling risk assessment?** To identify the risks present and implement safe system of work that is acceptable to both Janice and the carers and meets legal obligations. In short to reach a balanced decision that considers workplace health & safety and respects the individual's needs and human rights.

Environment

From the case study information make some notes on the sort of things you would need to consider in relation to Janice's environment and moving and handling difficulties.

Limited space in the rooms in the house. Narrow doors. Large pieces of furniture obstructing access around the home environment. All these impact on moving Janice around her house. There are concerns for the carers moving her from room to room with them potentially twisting and turning around the rooms. Janice is increasing in weight so there is the potential for larger items to be supplied into her house which already is limited in space.

Task Analysis/Problems

Make some notes about your initial thoughts about the case scenario and potential issues the Manual Handling Risk Assessment might identify. You may want to consider the following questions;

Who should be involved in the Manual handling risk assessment and why?

HCPs as they have an on going involvement in her care

Carers as they deliver the care

Family, husband and son, to help her when the carers are not on duty and when they need to move and handle her to allow the family to try and undertake daily activities.

Which professional should take the lead in the manual handling risk assessment and why?

Social Care OT in discussion with the district nurse.

Is the equipment currently in place suitable? If not why?

No.

The wheelchair is too narrow and restricts Janice's movement and access for the carers to insert a sling

The anti pressure cushion is possibly flattening out and therefore Janice's sacrum is sitting down on a hard surface. This will likely be contributing to the sacral pressure sore. The cushion needs to be reviewed and a new higher specification one provided

The bed and mattress are standard items of equipment and do not reflect the clinical and moving and handling needs of Janice. Her use of the bed rails and the moving of Janice in the bed need to be reviewed and more appropriate turning and moving equipment considered.

The hoist problems need to be reviewed and reasons found for Janice's anxiousness when she is being moved. The hoist suitability, size, range of movement need to be considered and reviewed. This detail needs to be discussed before any changes are made. The sling needs to be reviewed at the same time.

What other information do you need to make recommendations?

The room environments need to be assessed and consideration given to moving the larger items of furniture.

There may be a real benefit of involving other specialist HCPs, PT/OT/Nurses working in stroke rehabilitation to assess her clinical needs and link these to her MHRA requirements.

From the information provided in the case study what manual handling hazards are present? Part 2.		
1. Weight gain	2. Pressure	3. Slipping off chair
4. Restricted Movement	5. Non weight bearing	6. Anxious

What risks are present and what risk rating would you give them (Low/Medium/High/Very High)?	
1. Weight gain- appetite, lack of mobility	**High**
2. Pressure possibly caused by cushion, seating, restrictions on wheelchair width	**Medium/High**
3. Slipping off chair	**Medium**
4. Restricted movement around the house	**High**
5. Non weight bearing	**High**
6. Anxious	**Medium**

Desired Outcomes: Make a note of the outcomes you would like to achieve with this client.

Review moving and handling equipment and consider more supportive seating

Introduce ideas of different social activities to encourage outside or other interests

Discuss professional advice from a PT and Dietician about weight issues, more exercise programmes

What recommendations would you make and why?

It would be good to get Janice interacting more with family friends and outside interests. Her mobility, wellbeing and approach to daily living activities has been curtailed by her stroke. It would be good to encourage more stimulation around Janice to let her try new activities, engage with different people and to try and get back some of what she did prior to her stroke

Current recommendations:

Discuss with the family how they see Janice's care and rehabilitation developing. What are their goals and plans for the future. Perhaps have a conversation about exploring with the housing department more appropriate accommodation in their local area. Use the MHRA to lead some of this discussion particularly around the environment of the house: access, door widths, turning areas. Link this to why it is important to consider these appropriate changes. Discuss this information in relation to MH tasks that need to be carried out on a daily basis.

Involve Janice, John and their son in this conversation and review the care package and what is done for them as part of this work.

Address her anxiety about hoisting and try and find out why she is like this. Explore other hoisting options as part of this discussion and explain how different types of hoists and slings may offer a solution. This will involve using the details gathered in the TILE-O assessment.

Discuss with the physiotherapist a range of exercises that Janice can do which will help with her rehabilitation. It is relatively early post stroke and so any attempts to help support her sore arm along with appropriately prescribed exercises may help her improve. This programme of exercises will need to be monitored and reviewed to guage its effectiveness.

Janice's postural management needs require to be reassessed. She can be given advice on a more supportive way of sitting in her wheelchair and armchair. Both need to be reviewed and where possible adjusted so that her right arm and mid line position are maintained.

Suggest that Janice tries out a different style of chair which will assist in her positioning, incorporate pressure care seating and be adjustable and adaptable to accept accessories for example, positioning belt, thoracics as part of managing her care.

Look at the longer term hoisting needs if she is staying in her existing house. Discuss the options and look at the implications for a different type of hoist. For example, tracking hoists.

Possible future recommendations:

Seating: Take advice from the specialist stroke team on the most appropriate seating. Attempt to provide a seating system that is adjustable and will take accessories

Shower/commode: Discuss a wet floor area instead of a bath. Consider the type of shower chair and given the space constraints look at the options for a dual shower and commode chair. Look at the layout of the bathroom and consider the options with/without a bath

Bed: The way in which Janice is moved in bed could be better managed. Look at four way glide and glide and lock systems. Review the functions on the bed and ensure that there are clear guidelines on hoe Janice should be positioned in her bed. Continue to involve Janice in her positioning in bed but avoid using the side rails as a way of moving her up and around the bed.

Hoisting: She is clearly anxious about this whole moving and handling process. Involve the MH team and review all her hoisting needs.

11. Pilot Report to CEC Facilitator

Sent by email 25 June 11. Summary of Pilot Meeting to CEC WPA by K Munro.

Hello Kirsty,

I thought that it would be useful if I emailed you my thoughts on the meeting on the 23rd June 11 at Clydebank. I have based this response on the written down aims and objectives that we set out to cover with the group. I recognise that some of the processes of MHRA and generic assessments are under review just now by the CEC. I am also aware that this was a pilot study and that the feedback in real time and practice was achieved and should be captured and used to lead the way forward, if agreed by the senior OTs and your section, to the next stage of the development of this work. There were OTs present who have knowledge and experience of complex cases as this is part of their daily workload. They brought to the training session a breadth of awareness and by their comments all they require is a more succinct format of MHRA that is simple and easy to implement but which still recognises the legal obligations that they have and the role and responsibility that they each have in assessing clients and their specific and changing manual handling needs. Of note is the fact that staff were not coming from a standing start in this subject. MH training is undertaken by the CEC and OTs are routinely involved in training and refresher course in manual handling and the associated risk assessment led process.

The group came to the meeting with a range of experience and skills in manual handling and in the subject of risk assessment. The introduction recognised this fact and I believe that by giving the group a copy of the Duty of Care notes that the objectives about roles and responsibilities was covered. In this note mention is made of the Assessor's role in the assessment and provision of equipment. It may be that this document needs to be sent out in advance of any further work.
At the start of this note I think a pack should be developed with all the relevant details in it. I accept that some thought will need to be given to the contents of this pack and what details are relevant. With the group and from their comments there seemed to be a variance on the content of what was put in the assessment, the manual handling information required in the assessment and the number of pages/length of the paperwork and the potential frequency of change of this information through the duration of the client's need for equipment. I think this made it difficult to focus on the format that the CEC uses/will use just now and in the future. That said, the questions that we asked in the abridged format I felt were clear and could be answered.

After the discussion on the roles and responsibilities of HCPs in MHRA the pilot group discussed in detail the four case studies. These case studies had been circulated prior to the meeting. The group agreed that four cases would be too many for the teams that would be attending. To get the most out of the sessions the pilot team agreed that only two case studies should be used. They chose Jack and Jenny as good examples of the client types presenting in the community. The cases were a neurological progressive condition that could generalise across different neuro related conditions and a plus size/bariatric example with comorbidities. Both were living and being cared for in the community. Although these two cases were the focus for the pilot the team agreed to offer comment on the hazards for Janice and David so that these cases could be used if required in the future.

The group moved to the showroom and split up to assess Jack and Jenny using the paperwork that had been provided.

Both groups regularly referred to the contents of the risk assessments throughout the workshops and what they had to answer in relation to the various headers that had been created. I suppose it

depends whether members of the two groups felt that they had enough training on what to put in the MHRA and had a document that was easy to use and could be filled out, was recognised throughout the service and had a place within the request for the provision of the equipment. I feel that no 2 on the list was covered and that we did speak to the two groups about MHRA and how it could be used as a decision making document. From the interaction in the showroom there were lots of good positive comments about the way in which manual handling risk assessments are provided. At the think aloud session the groups presented their views on Jack and Jenny's MHRA needs. The clinical reasoning of "Why" and "How" this process of assessment is taking place needs to be clearly stated. Clinical judgement and the reasoning about the person's condition linked to the technical specification of the equipment and its intended use needs to be married together. I feel that there needs to be a way of capturing this detail in brief notes and in a photographic way so that the therapists can hand over their clinical assessment to the carers to follow with the comment, "The reason that I have recommended this equipment is................." There is a gap here and that came out in the conversations. In essence this is a potential barrier to implementing a process for dealing with the delivery of the outcomes of the MHRA assessment. The views of the group in their evaluation would be helpful here as to what they see as the use of the MHRA as a decision making tool. I was certainly aware that they saw it as important but did everyone see it as their route to basing decisions on the content of the information that they gathered and did they see it as a way of making useful and informed decisions?

We did cover in number 1 how the equipment in the two case studies worked independently and together. We challenged staff to think outwith what was said in the literature of the case studies. The best example here was that everyone assumed that the wheelchair accessible bungalow would suit a bariatric wheelchair user. That example, although not intended, was a major talking point. It created a case study which people did engage in and I think the whole issue of heavy people was well discussed with more still to be talked through.

I think that a checklist about how to move from a bed to a chair and chair to chair etc could be developed by myself so that therapists could instruct staff on each stage of what to do in these moves. Again any pack that is created could have this detail in it so that staff could prepare and that reference could be made to it throughout further training. Such notes could be linked to and joined up with the following practical demonstration of equipment:

For example: we will carry out the following moves based on TILE:

Discuss bed, profile, leg, seat and head position and the benefits of profile

Placing and sling: 2 ways: roll: insert from head end using a slide sheet. Taking sling off

Mattress firm to position

Lowerbed and raise person to get in the correct position

Incorrect moves and positions with slings and hoists. What you need to know

Mobile hoists and CTH. Single and FRC

Seating and postural management and symmetry

Accessories. Adjusting a chair, adding on a 4point CPH. Freeway parts and supporting surfaces etc.

We struggled for time and I think that anything that could be added to the pre course notes would help focus on what was being delivered on the day. We did get side tracked. This in itself is not bad thing. However, it means that the detail on the day may not be fully covered.

The Pilot group discussed the programme and the content of the day. We made notes on the case studies

This was borne out by the lack of time for the accessories workshop and it meant that the final session on evaluation, management process and equipment solutions was not held. Staff did go away with this information in paper note format but it would have been good to compare notes and ideas. Perhaps a follow up session in Edinburgh can take place to do this section.

I know that we didn't get to the maintenance details in any way other than what was discussed as part of the workshop. This is an important section. Again it can be added in a sheet to a pack as the CEC have maintenance contracts in place and OTs just need to have the up to date contact information and procedures provided by the various service companies. A short section on maintenance can then be added to any course.

It is important to recognise that some therapists don't routinely deal with regular complex cases. This potentially could be addressed by having a graded scheme of staff with experience and skills. Some staff may opt to have the basic practical skills linked to the MHRA whilst a group of key staff with an interest in this work could embark on a more advanced course. This is just made as a suggestion. I realise that this is a manpower issue. I think your idea of staff stating in advance their level of awareness and skills would be a positive step. Although everyone learns something it is not always possible to spend the appropriate time with the various groups if the ability mix is too varied.

In summary, I think for a pilot we achieved quite a bit of the work that we set out to do based on the aims. The points 1 to 5 were delivered but not in a chronological order. It would be useful to provide a pre course pack with an agreed set of contents. The policy and procedures from the CEC on MHRA and the instruction on how to fill out the details could be clearly stated and that way the case studies can be discussed, practised and commented on. A good amount of this information was provided but was possibly seen by some of the delegates in an unfamiliar format and without guidance on what was expected of them.

I am sure everyone took something away from the day and that it possibly adds weight to the debate of the usefulness of such a session. The evaluation sheets will be the judge!

For my research would it be possible to get a summary of the evaluation sheets? I am trying to write some interview questions and it would be good to get an idea of what people think from the questions asked in the pilot via the evaluation. I am putting together my response to Elaine and Mary based on their email to me. I need to create the content for their specific questions.

Thanks for all your input. I will call you to see how we take this forward.

Cheers.

KM.

12. Participant Notes on Jack Smith case study

case study

Hoists, Chairs & Shower equipment: Making them Work Together
Case Study 1 – Jack Smith

Client Name: Jack Smith	Date of Birth: 21/05/1961

Summary of Personal Circumstances:
Jack is a 50 year old single man who gave up his work last year. He has MS and spends most of his time at home. He doesn't socialise easily and all attempts to encourage him to attend the local MS group have been turned down. *(handwritten)*

He transfers from chair to chair and bed to chair in a very unconventional sideways move. He doesn't use a transfer board but prefers to pull himself across using the opposite wheelchair arm. One carer visits twice a day to provide minimal assistance and supervision when Jack is transferring. *How? After transferring ? goes he down ①?*

Recently the carers reported that Jack has been complaining of weakness/fatigue after he has transferred. He fell twice in the last two weeks and has required to be hoisted. The carers used a manual mobile hoist to lift Jack from the floor, this required excessive effort on the part of the carers. The carers also found it challenging because Jack is very resistant to being moved in the hoist and would have preferred the carers to have bodily lift him from the floor. *Theme is an issue. ↑ risk of falls.*

Consideration has been given to a standaid hoist and sling, but Jack feels that any hoist would be a regressive step. However, due to his falls he has agreed to a hoist of some kind for transfers when he feels fatigued. He can be very particular about which carers hoist him, and has been know to be verbally aggressive with certain carers. The District Nurse has explained to Jack that a review of his manual handling is required but He is reluctant to participate in any official processes and procedures. The District Nurse also has concerns about his skin integrity on his sacrum. *? to mal gebrail*

Client/Carer View of current situation:
Jack is reluctant to consider any type of hoist to assist him with transfers. He feels that this will remove is independence. Jack also states he does not require assistance from the home carers and only reluctantly agreed to the package of care after his friend, who previously helped him around the house, moved away. *Did his friend will lever bodily?*

Profile of Client

What health problems does the person have?
MS – first diagnosed in 1982 *– MS for 21 years* *relapsing, remitting? If only getting problems transferring – Unlikely to improve.*

What is the person's physical status?
Height – 6ft (1.83m), Weight – 11st 7lb *re the bed assist him > Sitting*

Jack is able to turn himself in bed using the bed rails on his hospital bed. He requires assistance to sit up in bed, but once upright is able to sit independently on the edge of the bed. Jack has good grip strength in both hands, he has some difficulty with fine motor control particularly when he is tired. Jack often experiences extensor spasm when carers try to move him in bed and when attempting to apply the hoist sling. *knee break bit then backrest up.*

What is the person's mental status?
Jack is able to make decisions about his care, he sometimes has difficulty recalling information from previous conversations and so benefits from written information summarising any decisions agreed. *? cognitive clean ? capacity*

? Medication
? Environment

Hoists, Chairs & Shower equipment: Making them Work Together
Case Study 1 – Jack Smith

Is the person able to weight bear?					
Fully Weight Bear		Partially weight bear	x	Unable to weight bear	

Does the person use walking aids?	No: x
Yes (give details)	

Is the person cooperative?	
Yes:	No Jack can be verbally aggressive with carers, he is reluctant to accept assistance of carers or to use equipment. *– why?*

Is the person unpredictable?	No: x
Yes (give details)	

Is the person able to follow instructions?	
Yes Jack is able to follow instructions from carers and also indicate pain and discomfort during care tasks.	No(give details)

Does the person use any attachments (e.g. catheter, drips, dressings, prostheses)?	No:
Yes *suprapubic* Jack has an indwelling catheter, he is keen to manage this independently but sometimes has difficulty changing and emptying his catheter bag because of his deteriorating fine motor skills.	*? Cart its @ E* *change picked bag?*

Can the person assist with transfers	No(give details) *Sara steady.*
Yes Jack is able to move himself forward in his chair and grip standaid or arms of chair/wheelchair. He is able to stand for short periods of time (approximately 1minute) with assistance of 1 person.	*? Powered standaid & transport shop.*

Can the person communicate discomfort/pain?	
Yes: x	No (give details)

Is height and/or weight problematic?	No: x
Yes (give details)	

Are there skin problems (e.g. pressure sores; wound sites)?	No:
Yes *? pressure ulcer?* District Nurse is concerned about skin integrity in the sacral area.	

*? pre
sore
? relate
to faty*

Are there muscle tone issues (e.g. spasm, seizures, involuntary movement)?	No:
Yes Jack often experiences extensor spasm when carers try to move him in bed and when attempting to apply the hoist sling.	

Equipment in situ
- Transit style wheelchair 17in x 17in (43cm x 43cm) – issued by wheelchair service. *– ? Too small*   *? Indoor powered   wheel ? power*
- Powered wheelchair for outdoors – issued by wheelchair service.
- Standard polyurethane foam cushion with a PVC seated cover – issued with his wheelchair. *– If DN is concerned re skin integrity – Refer to makes for a suit*
- Height adjustable high seat chair with fixed cushion. *? Suitable seating in such cushion*
- Height adjustable hospital bed, silicore mattress, no profile. *– liaise c DN for a profile*
- Mobile manual hoist and sling – not used in place just in case Jack falls. *bed.*
- Standard 17in wide attendant propelled shower chair.

LWBorl – ? moved at risk of pressure sores.

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Before attending the course please consider the following aspects of the Moving and Handling Risk Assessment for Jack. During the course you will work with a partner to present your views and opinions on each case study.

Purpose of Assessment

Make some notes on the following questions

Why would you complete a moving and handling risk assessment for Jack?
Clients needs have recently changed, weakness + fatigue following transfers and his recently falls twice.

What areas would you assess and why? what equipment is he using? — chair shower chair
chair transfers, bed transfers, u/ch transfers, shower chair transfers
skin integrity, sacral care ... ? trunk strength/stability, home environment & clutter.
? effort chair to using & transfer

What do you want to achieve by completing the manual handling risk assessment? A safer and more effective way of transferring client which does not put client or carers at risk.
↑ Jack's safety and independence and minimise risk to client & carers.
Continuity of care staff if possible. — Gates @ bedside.

Environment

From the case study information make some notes on the sort of things you would need to consider in relation to Jack's environment and moving and handling difficulties.

? Is the environment cluttered? what kind of space – floor coverings
toilet commode mattress
? Available equipment – bed/chair, closures. – why attendant propelled
shower chair – ? limited space. ? why has Jack fallen. – If he wants
to transfer – does he attempt this alone? Is there any telecare visits?
– who can he call.

Task Analysis Problems

Make some notes about your initial thoughts about the case scenario and potential issues the Manual Handling Risk Assessment might identify. You may want to consider the following questions;

Who should be involved in the Manual handling risk assessment and why?
OT, DN (pressure care; catheter; bed), carers, Jack, MARS.
L ADL's involved & care manager – ? ↑ care package, PT – strength
core. exercises.
Transfers, Risk Ax, techniques, Risk Ax. build capacity.

Which professional should take the lead in the manual handling risk assessment and why? OT – medical, equipment knowledge
M+H training, impartial, holistic
promoting ①

Is the equipment currently in place suitable? If not why?
manual hoist. – dealing c falls rather than preventing falls.
profiling bed instead of bed currently in situ.
u/ch / shower chair – why attendant propelled. Pressure relief.
Can shower chair be used over the toilet to minimise transfers.

What other information do you need to make recommendations? – minimal ④ ? – pressure
why has Jack falling. what are carers doing. ? vision
– time of day what was Jack doing. How did Jack manage lap?

(left margin) use info. —
environment

Case Study Recommendations Sheet

From the information provided in the case study what hazards are present? Who could be harmed & how?

large person to move

1. Jack - Tall weighs 11.5 stone!
2. Jack - weakness + fatigue / fluctuating ability
3. Jack - possible agression verbally
4. Jack - poor skin integrity
5. Jack - cognitive decline memory poor, lack of insight
6. Jack - unconnected trained carers - different sizes & abilities + level of training
7. Jack - catheter risk of pulling this out - biological hazard
8. Jack - unrealistic expectations of others - cares - bodily resp rather than using equipment
9. Jack - single carer that attends to them - technique + method
10. Environment - Unknown space issues, clutter. environment
11. ? Pulling / pushing. lifting. Pushing
12. unrealistic expectation of carer

What risks are present and what risk rating would you give them?	
1. Risk of falls. - fatigue variable ability	High
2. Risk of injury to staff - size + variability behaviour + function likely - major	High
3. Risk of pressure sores - Jack shearing on skin during transfer almost certain + major v.high - pressure care.	V. high
4. Risk of abusive harm to staff as Jack is sometimes agressive possible + major	medium / high
5. Risk of cumulative strain to staff + harm to Jack. almost certain + moderate extensor spasm up from floor bending overreach. overreaching	High
6. Injury to staff +, distress to client if he is spasming - extensor spasm affect participation Emo emotional full strain possible + moderate be M + H	medium
7. Risk of inappropriate equipment - damage →	
8. Risk of injury to Jack ? Emotional distress.	

catheter tube - empty catheter prior to transfer

Jerking chest Hydraulic mechanical harm / Are carers causing emo spasms?

Desired Outcomes: Make a note of the outcomes you would like to achieve with this client.

Safe and as independent transfers as possible.

maintain Jacki's independence.

Safe working practices for staff

manual handling handling plan in place

Detailed risk Ax to be completed.

What recommendations would you make and why?

All equipment in place to be suitable and appropriate for clients needs. taking into account client is going to progress — ∴ needs for now and the future. — Forward planning.

Ax & review, risk Ax and handling plan.   LITE Assessment

Load   Task   Individual   Environment.

Joint Ax c̄ PT — re standing tolerance.

? Grabrails; stick move — short transfer and . ? manager elle rather than mobile hoist

.PN pressure

telecare.

bed — profiling bed + appropriate mattress

— Appropriate STCH   Appropriate seating   appropriate showerchair — COT.

TIS — preventing spasming.

Good use of energy conservation techniques + pacing

— written plan for client & carers.

[?] standing hoist with a sling.

clinical reasoning . — Don't deal c̄ client as a 'load'

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If you notice there is a change in
his client is being moved. Pls contact OT dept for
a review.

? Trunk support
? Thoracics

Pictorial diagrams.

Use this space to make any notes about the case study. Adjust height of the bed h

Bed transfers | Profiling bed — Ask client to roll to insert S.S.
— Insert slide sheet
— knee break up
— back of bed up.
— knee break down
Surface
Consider
pressure care.
? mattress – skishg
— Stable.

or pillow lift
— Bed slipper arms — (A) of 1 to prevent shearing and move
knees up.
to slide on bed. — BEHAVIOUR. — a big aspect.
— Support client
remove slide sheet
client to edge of bed. — Give client time.

What stage is MS at?

? neurological condition – on review.

? Sit to stand transfer
is this consistent?
— mood changed? when left secure.
? Rota Stand.

? well placed grab rail.
Sit to stand from bed using an
oxford journey & standing sling
(+ transport sling – in case)
for carer can use quick move

Posture in position
shower chair.
– check obliquity

Toilet transfers — [remove commode]. Shower/commode chair c
? closer mat – more dignified
& fine hyper movement. use energy conservation

TIS – T80 – ? groover a closer mat.
– skirt for T80

B Calf strap – to free spasm
variety of foot plates.
? strap. padded to over the top.
4 point seat belt
to push until pts in the correct place
? Head support

Chair – to change position in – riser chair. +TIS.
configura
up and then forward.

Hoisting
5° angle of
> shower chair.
plantar/dorsi
flexion
+ oedematous legs.

90% depending on environmental surroundings.

made in from front
not pulling in from the back.

gets carer in closer.

4 point belt keeps hips in correct position.

w/ch – has not been reviewed in a while. ? indoor out door
p w/ch – smaller axis.
Shower chair – only one available

supported surface
– foot plates + seat

Spasm – feet on floor – create a spasm – slide off the bed.
extensor

Fell – transfers himself & moving from one chair to another

It's in correct place always Ask a
thoracic supports
BALANCE ? high one side
on one side
4 points: Hip strap – Axis.
Prescription form for free way.
? Am I solving one problem
Symmetry. proper angles.
support

Horseshoe
17" at front
19 – at heel

Moving & Handling – Part 2.

Monitise the risk to come up with the right solutions

Standing hoists. – Oxford Journey hoist.

Flooring – laminate – not necessarily the best.

transport sling. – that ī transport sling first if you haven't seen chair before. –

Standing sling.

One side affected. – How does sling. – can put one side of transport sling on
affect movement it necc
– not doing a sway towards affected side for lengthy

Tracksuit) long shirts – adjust clothing
boxers velcro along the seam

ī poppes
down the side.
– canterbury.
How to pull down undies) ī one leg strap on
pull down the side then to side and pull pull down trousers.
down other side
pants up as far as possible Stretchier pants ī pads

Different hoops on different hoops of hoist.
of sling

Only brake on a wet floor surface when helping chest to standing.
esp if there is an extensor spasm.

journey
Move arm to lift → standard handle

elbow on hip hand underneath chest elbow – support chest until
upright.

? What does an ankle hugger look like?

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13. Notes from Think Aloud Feedback Sessions on Jack case study

Group: 3. Feedback session presentation

Participants: Aberdeen City Council/NHS Grampian

Number of Participants: 2

Client: Jack

Venue: Ward 3 Aberdeen Royal Infirmary

Date: 26.06.13

The hazards identified.

Weight of Jack. If he is inactive he may put on weight. Question over eating, motor control, question of him dropping cutlery, not eating etc. Medium risk.

Weakness and fatigue. If weak can't be bothered to do things. He is non cooperative. In bed if he turns then he can't get back to his original position. High risk

Aggression. Not good working with carers. Stubborn and not able to do. Won't accept help. Not coping with his condition. Angry. High risk.

Skin issues. Sitting a lot so may have pressure build up. Damage to his skin is a hazard. He may not be aware of his pressure issues. Issues with his transfers, could fall, injure himself and may damage his skin which will potentially take longer to heal. High risk.

Cognitive issues/decline/memory poor. Needs to be prompted. Not always remembering to do things. Medium to high risk. Unrealistic expectations of carers. Jack is not happy. He is questioning the ability of carers to do their work. He is not cooperative. They feel threatened. Medium/High Risk

Medical issues. Hazards around extensor spasms. Question over his Baclofen and the control of his spasms. Issues around his postural management. His sitting position is a concern, probably a hazard to his skin, potentially a falls issue when he transfers. His MS and his spasm. When applying slings potential inducing spasm to his adductors and the knock on effect of potentially falling. High risk.

Environmental hazards. They discussed the carpets/surface for working. Lots of clutter therefore unable to move easily, potentially slips, trips and falls. Unwillingness to move obstructions.

Pushing and pulling of equipment. Looked at castor sizes on the hoist. Comments on turning areas being potentially restricted. Weight of the equipment, size of the equipment. Turning circles.

Staff learning from each other. One OT did a mind map of the workshop. Assisted the OT in thinking through some of the key issues and hazards.

Weight of Jack, Medium

Weakness and Fatigue. High

Aggression. High

Skin Issues. High

Cognitive issues. High

Role of carers and ability to do the work. Medium High.

Medical Issues High

Unrealistic expectations. Medium High

Environment. High

Pushing and pulling of equipment. High

14. Participant's Mindmap of Jack case study

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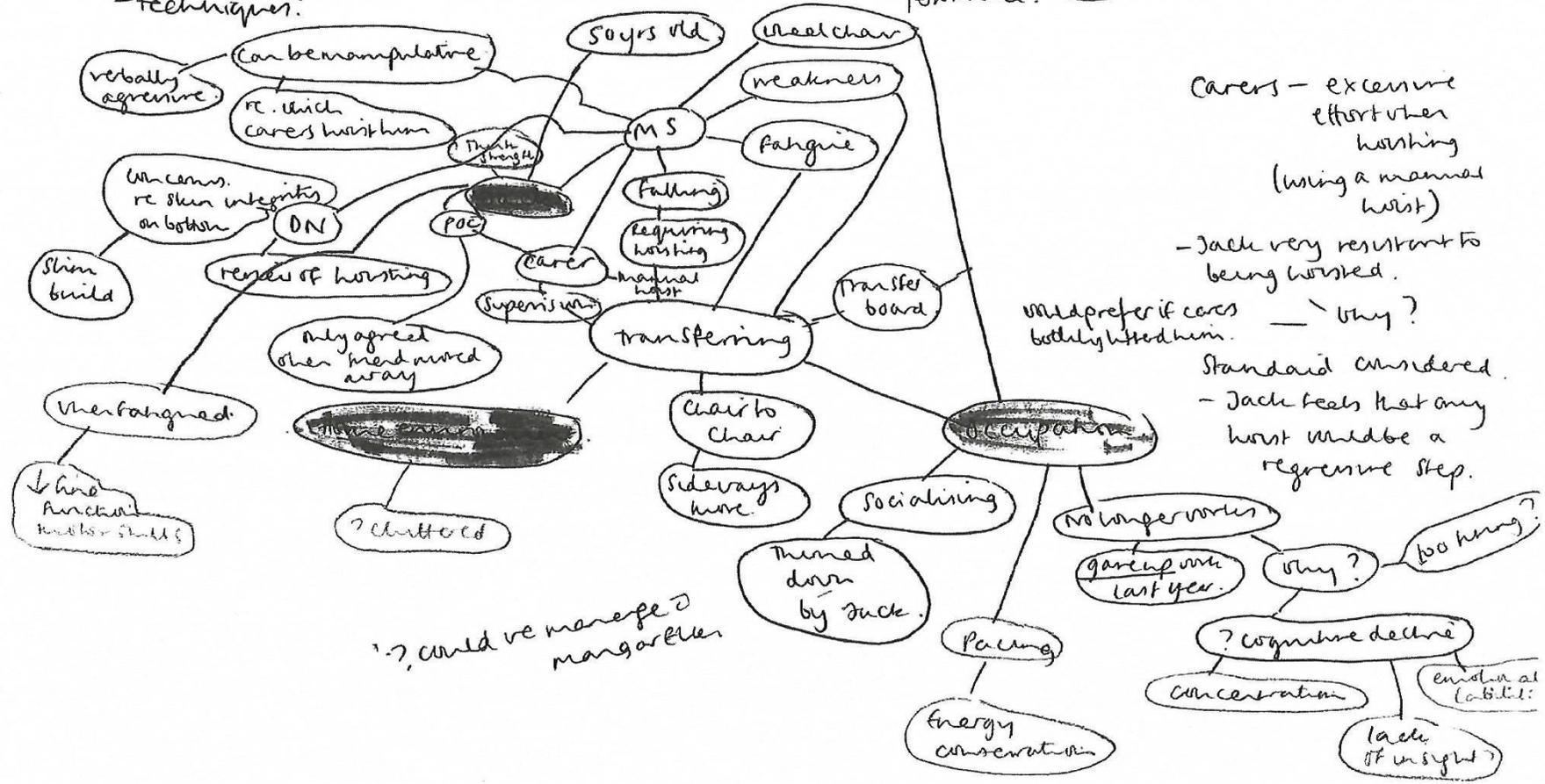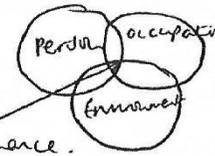
15. Participant Notes on Jenny Jones case study

Hoists, Chairs & Shower equipment: Making them Work Together
Case Study 2- Jenny Jones

Case Study Answer Sheet –Pre-course work

Before attending the course please consider the following aspects of the Moving and Handling Risk Assessment for Jenny. During the course you will work with a partner to present your views and opinions on each case study.

Purpose of Assessment

Make some notes on the following questions

Why would you complete a moving and handling risk assessment for Jenny?

Jenny cannot weight bear – equipment is req'd
Jenny's weight is a major problem
Maximum care is req'd for Jenny

What areas would you assess and why?

All transfers
Use of equipment in situ
Carers - how are they coping

What do you want to achieve by completing the manual handling risk assessment?

Ensuring all Jenny's transfers are safe for her & carers
Ensuring appropriate equipment is in situ
Preventing further sores/problems developing

Environment

From the case study information make some notes on the sort of things you would need to consider in relation to Jenny's environment and moving and handling difficulties.

Bungalow - how big are the rooms/doorways
Sufficient space for moving + handling equipment
Showering facilities - ? wet floor
Isolated ? able to access shops etc close by

Problem Areas

What impact will Jenny's condition likely have on his function now and in the future?

Decreased function now and in the future
Dependant on carers for support
Likely to put on more weight ↓transfers

Is the equipment currently in place suitable? If not why?

No - always sits in wheelchair - needs to change position in
? Bariatric Hospital bed ē high pressure relieving mattress
? Ceiling track hoist wrong hoist x3

mother chair

What other information do you need to make recommendations?

Client's exact weight – 29 stone ? suitable seating in house
Feedback from carers & Dr's/GP re concerns
How much upper body strength client has - what level
of function she has in upper body

How client is transferring at present and how
she is coping ē this and what equipment is
already in situ.
Elevate legs at all times.

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lusting
Turning
Reacting
Pulling

Case Study Recommendations Sheet

From the information provided in the case study what hazards are present?		
1. Weight (VH)	2. Hospital bed (size)	3. Sitting balance
4. Environment	5. Attitude to care/s	6. Difficulty applying slings
7. Glide sheet	8. Fatigue (MH)	9.
10.	11.	12.

What risks are present and what risk rating would you give them?	P/chp. No. S.
1. Poor skin integrity	5 →3
2. Safe working load & centre of gravity	5 →2
3. Postural Management & wheel chair	5 →2
4. Unable to transfer without assistance	5 →1
5. Bed mobility	5 →2/3
6.	
7.	
8.	

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Likelihood
& severity

Desired Outcomes: Make a note of the outcomes you would like to achieve with this client.

Reduce risks in all transfers - injury to client - skin integrity, falling.
        injury to carers - posture
                            Twisting
                            reaching
Reduce risks in using equipment   managing working load
Managing the environment

○ Client centred Goals
○ Intervention

What recommendations would you make and why?

Glide sheet to position sling to prevent rolling
Asking & involving client in transfer
Take photos for use c̄ carers & demonstrate prior to working c̄
the client
Use of bed - back rest & brake - lowering bed
Using sling appropriately for seated posture & lying posture
Ensure shower chair is tilted
Blue loops upright orange loops tilt in space
Size of bed & moving bed.
Extra supports for wheelchair

Recommend a 780 shower chair
Alternative seating could be discussed - chair, back to bed
↑ in POC to accomodate posture management

Mattress
weight
?track
hoist
?shower
sling
?padded

What did
they use
before
Is house suitable?
for long term

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16. Notes from Think Aloud Feedback Sessions on Jenny case study

Group: 1 Feedback Session Presentation

Participants: City of Edinburgh Council

Number of Participants: 4

Client: Jenny

Venue: Clydebank

Date: 28.11.11

At the group presentation the team looked at their notes and discussed their hazards and risks for Jenny. The notes were a prompt to the team when they commented on Jenny. The field notes were typed up as follows.

They identified the following hazards. The risks are written in red alongside the script. This corresponds to the red sheets handed out to the groups. Jenny had real issues with her weight. Scoring. VH. There were comments around how accurate the weight was. How was she weighed and how often. They discussed the importance of whether she apple or pear shaped. Sometimes difficult to work out shape and size and to balance and position her on her bed. M/H. The HCPs discussed the way she treats carers and that this can be poor in her approach/manner particularly when she is receiving personal care. M/ H. Issues with her catheter and the bypass problems. She has real skin care concerns. The tissue viability issues present access for cleaning hazards, holding her when trying to clean at layers of skin, pressure issues with high risk of skin breakdown and resultant infection. H.

Jenny is heavy to move, heavy to reposition. She can't really assist and depending on her mood at the time of the manoeuvre she can be unhelpful. M/H There is the potential twisting and turning hazard issues with carers and the falling hazard or injury to Jenny. This is all high risk work.H.

The group identified that Jenny has co morbidities and that various issues around her health could be working together to complicate her moving and handling. For example pressure sore pain when she is being moved, her response as a result to staff and the unwillingness to cooperate. He fatigue and the weakness that she encounters is hazardous to her health and also makes her moving and handling difficult as she is not able to assist. The staff find moving and sustaining her position a hazard with a very high risk of injury to themselves. VH. WAQ

For the participants the environment presented as a hazard. Common to the community setting. The hazard was lack of space in her house. The team saw this as a medium to high in risk scoring M/H. They questioned what was meant by an adapted house.

The equipment provided they saw the size of it as a turning hazard in a limited space. They discussed moving the equipment of carpet and being able to manoeuvre it with Jenny on it in an enclosed area. They talked about the furniture and the need to move it. Who would move the furniture and to where. Moving and handling issues for carers doing this work. The fact that Jenny was above the Safe Working Load (SWL) of the equipment was highlighted as a hazard with a high risk of failure of the equipment and the subsequent risk to the staff of the equipment breaking down or working intermittently when Jenny was in the hoist. Again the twisting and turning of staff when moving the mobile hoist was a highlighted hazardous issue. H.

The risks were noted in the matrix based on the comments made by the teams. There was discussion around the use of the equipment in the workshop and some of the ideas about using different equipment for Jenny.

17. Interview Schedule for Participants with Mixed Experience (Novice)

The purpose of this session is to gather **primary research data** from HCPs who are involved in MHRA. The content of the sessions will be recorded to allow for the transcription of the **interviews** and to cover the views expressed by the participants. The information obtained will be used in the of the research thesis as a representative sample of the people who participated in the workshops and who practice MHRA in dealing with their clients in the healthcare community setting.

The questions asked in this section are aimed at therapists with a **range of experience** based on the number of years' service as a HCP dealing with the complex needs of clients in the community. The HCPs who were involved in the pre course group discussions on Jack and Jenny and then the practical workshop followed by the accessories session will be best placed to participate in this individual and group work. Reference will be made to the worksheets in the questions used on Jack and Jenny and filled out and followed by the HCPs. The general **anonymised views** expressed by therapists in the evaluation sheets will be discussed during the course of the following individual and group interviews.

- ✓ K to recap on the research question.
- ✓ Using the information pack highlight the pre course work and the practical sessions that the therapists undertook.
- ✓ Mention about the professional duty of care and the provision of equipment by a local authority
- ✓ Recap about the aims of the accessories workshops that followed the training
- ✓ Ask the group to comment on the achievement of the aims and objectives of the training and refer to the link that will be made to the evaluation sheets

<u>General.</u>

Using the power point presentation I want to take you through a range of basic questions. I will ask **each** of you the **same questions**. This will set the background for the role of the HCP in a MHRA in a community setting when dealing with clients with **complex needs** who require an in depth assessment for a range of AT equipment.

- ✓ Identify the professional make up of the group. Ask all respondents to give their:
- ✓ Occupation and employer [The therapists will remain anonymous. Names will not be used in the written thesis. The thesis text will read ("…..a group of therapists with an average xxxx years of experience agreed to be interviewed on their involvement with a MHRA for a client with complex needs in a community setting").]
- ✓ Number of years as a HCP. That is, when did you graduate and have you undertaken a HCP post full time/ part time/job share/other throughout this period?
- ✓ Do you work in the community?
- ✓ How often do you deal with clients with complex needs who require to be manually handled. 1 per week, per month or more often/less frequent etc.

Education and Training.

In your career to date, can you explain what you have undertaken or been offered/participated in by your employer in terms of formal education and training in health, safety and risk management, prior to carrying out MHRAs? Who teaches you what you need to know about risk assessment? Think aloud and talk me through this question.

- ✓ Is it your job specific role as a community HCP to do the MHRA for your client?
- ✓ What access do you have to other professionals,eg. safety, risk management or HCP on deciding on what is recorded in the MHRA for a client with complex needs? How easy is it to obtain assistance from risk assessment specialists in your area of work?
- ✓ In the courses mentioned in the introduction to this section how much time is spent on the practical problem solving of MH issues and do you get a chance to practise on each other using equipment that you would routinely find in a client's house.
- ✓ Is there a written and or practical examination at the end of your training? Is this a competency test in MH? If so what type of detail is covered? Are there any case study questions which require you to identify hazards, evaluate risks and then add your clinical reasoning to obtain an informed set of outcomes, including the provision on appropriate equipment, that you can then introduce to the client, which is then monitored and reviewed?

As a group.

Complex needs and Clinical Reasoning

Explain for the lay person your views on the phrase " **client with complex needs**."

If you were to define **clinical reasoning** how would you explain the term?

What part does CR play in the MHRA process. (Hazard Identification, Risk Evaluation, Clinical Reasoning, Outcomes, Monitor and Review).

The MHRA

Can you explain how you would carry out a MHRA in the community if a complex case was allocated to you today by your Senior OT? You may want to think of Jack or Jenny as an example. Please cover the preparation work that you do ahead of the visit and mention the information you routinely receive about the client/condition from other HCPs. eg Discharge from the acute sector. Is the information relevant to the community? Discuss the paperwork from your employer that you will fill out at the visit and the notes that you will write up when you return to your office. Include MH needs and the types of questions on TILE you will ask the family and the carers on your first and then subsequent visits.

Format: prescribe, inform, quantify.

Explain the format of your existing MHRA form supplied by your employer. Do you know how long this format has been in use? From your experience of being the client facing, direct point of contact, if you think that the MHRA format needs to be changed to reflect more accurately what you are having to deal with regarding the MH complexities of clients, are you ever involved in suggesting any changes to the form and how it could be made more relevant to the community environment? Does the format just tick a box or does it go further?

Do you routinely refer to the history of the MHRA for the client or is change only made when there is a crisis or a reactive situation occurs?

How would you ensure that the equipment that you prescribe is in the right place and being used correctly? Explain your duty of care to ensure that everyone involved in the person's MH is trained in the use of the equipment. Who is responsible for the provision of training on the use of the AT equipment for clients with complex needs?

How do you inform the carers of the client with complex needs about the content of the MHRA that you would like them to follow? Do you meet with the care managers/ the carers over a complex case. Explain briefly the usual process of involving and explaining your finding to the carers.

How long does all this work on MHRA take? Have you ever tried to quantify the time involved per case? Would such data be useful to highlight any facts to your seniors?

Quantitative/Qualitative

As a group do you perceive MHRA to be **quantitative** (number of risk assessments carried out, number of hoists and slings provided etc or **qualitative** (view of the person on MH, the involvement of the family and the dynamic of the home etc) ? Please discuss why you think the subject is either Quantitative or Qualitative. Depending on your answer where can you note this information in the MHRA and is it used as part of your assessment and the review process. (Perhaps it is a bit of both, if so why)?

As a group.

Monitoring and Review

Take me through the monitoring and review process for a MHRA relating to a case with complex needs in the community. Explain the key factors involved in deciding when you would close a complex case with MH needs.

As a group.

Legislation

Finally, Do you ever use the actual legislation in the compilation of MHRA?The following legislation is relevant to MHRA. Other than question 5,by raising your hands please tell me which are true and which are false. I will indicate the responses to enable the results to be recorded. The answers can be Yes/No/ Don't know.

Questions on legislation.

1. The HSE have a 5 stages to risk assessment format which is used as a base line for all risk assessment education and training?
2. The HASAWA 1974 is the main item of legislation dealing with an employer's duty to identify and assess risks to employees in their work place as far as reasonably practicable?
3. Do employers have to cooperate and coordinate activities in a workplace in which other people are working to meet health and safety requirements?
4. Has an employer, the NHS, got a responsibility to non employees for example members of a Local Authority, community care staff, users etc?
5. Was it 1992,1991, 1989 that the MHOR came into effect?
6. Do the LOLER and the PUWER provide employers with various duties in relation to MH equipment ?

18. Interview Schedule for Participants in a Policy / Procedure / Advisor role (Competent)

The purpose of this session is to gather **primary research data** from HCP who have a policy/advisory/ procedural role within or in connection to a community healthcare setting. Already as part of the research programme a representative sample of HCPs will be involved in the interview process. There will be two different groups taking part. One group will be made up of experienced HCPs who can give a perspective from a senior community position, the second will be a group of HCPs with a mixed range of experience in their organisation/s. The focus for the interviews has been the workshops run in 2012/13 in which two case studies (Jack and Jenny) were used to lead the research question on the involvement that HCPs have in the assessment and compilation of MHRA when dealing with clients with **complex needs** in a community setting.

The following reference points and questions have been universally asked of the other groups.

- ✓ Recap on the research question and the aims and objectives of the practical workshops.
- ✓ Using the information pack highlight the pre course work and the practical sessions that the therapists undertook.
- ✓ Mention about the professional duty of care and the provision of equipment by a local authority
- ✓ Recap about the aims of the accessories workshops that followed the training
- ✓ Ask the group to comment on the achievement of the aims and objectives of the training and refer to the link that will be made to the evaluation sheets. All references to comments in the evaluation will be anonymous.

General

Using the power point presentation I want to take you through a range of basic questions. I will ask each of you the same questions. This will set the background for the role of the HCP in a MHRA when dealing with clients with **complex needs** in a community setting. As part of the assessment the clients may require to be provided with a range of AT equipment.

- ✓ Identify the professional make up of the group. Ask all respondents to give their:
- ✓ Occupation, grade and employer [The therapists can remain anonymous. Names will not be used in the written thesis. The thesis text will read ("…..a group of therapists with an average xxxx years of experience agreed to be interviewed on their involvement with a MHRA for a client with complex needs in a community setting").]
- ✓ Number of years as a HCP. That is, when did you graduate and have you undertaken a HCP post full time/ part time/job share/other throughout this period?
- ✓ Do you work in the community?

As a Group.

Education and training

In your career to date, can you explain what you have undertaken or been offered/participated in by your employer in terms of formal education and training in health, safety and risk management, prior to carrying out MHRAs? Who teaches you what you need to know about risk assessment? Please think aloud and talk me through this question.

- Can you give examples of the ways in which you have been guided by or have used the guidelines from professional bodies to help advance your input into MH policies and procedures. For example, the BAOT, RCN, CSP, IOSH, NBE, others?
- Can you describe when and where in your organisation HCPs involved in MH in the community are able to use the details contained in the Scottish Manual Handling Passport as a guide to their practice?
- I am going to read out the key points expressed in the SMHP in which NHS Boards are strongly encouraged to adopt the views expressed in the document. It should be noted that the SMHP does strongly encourage other healthcare providers such as Local authorities and the private and voluntary sector to take part in the Passport Scheme to enable the promotion of a consistent approach to MH skills and knowledge.

Please be open and constructive and tell me if in your area of work you think that the following key points are working from the SMHP. If not why not etc.

- ✓ There is consistency of MH education across NHS Scotland (local authority areas and others)?
- ✓ Are staff able to transfer their skills without the need for additional training when moving from board to board.
- ✓ The passport will assist in the further standardisation of skills and knowledge throughout NHS Scotland.

- ✓ How is MH education, training and competency measures implemented, monitored and reviewed with staff in your organisation. Is there a place for E learning for MH in your organisation? If so, how could E learning in this area of work be implemented?

Competency

HCP dealing with the MHRA for clients with **complex needs** should be able to work within their knowledge base. This research wants to examine the pathway for dealing with MHRA in relation to clients like Jack and Jenny who need professional people with developed skills around them. These HCP as well as having a good educational grounding should have the necessary experience and skills to deal with the changing demands relating to their clients' needs in their own home settings.

Are you familiar with Dr Patricia Benner's work from Novice to Expert? Show of hands and a count for the recording.

Quote "…expert nurses develop skills and understanding of patient care over time through a sound educational base as well as a multitude of experiences." Benner.P (1982). From novice to expert. American Journal of Nursing. 82(3). 402-407.

As someone involved in policy and procedures within your organisation do you think that HCPs carrying out MHRA are at this stage of experience? Please explain your thoughts and perhaps think of your position on Benner's 5 level's of experience:

1. Novice
2. Advanced Beginner
3. Competent
4. Proficient
5. Expert

Ideally everyone would want to be an Expert. How in your organisation could a HCP get to the expert level and practice the skills and experience which would have an organisational benefit?

Clinical Reasoning

When the phrase "clinical reasoning" is used as part of an assessment what is your understanding of this term.

- ✓ I have two definitions of Clinical Reasoning. Which comes closest to your thoughts on the term and why?

Anderson KJ. " *A definition of clinical reasoning includes an ability to integrate and apply different types of knowledge, to weigh evidence, critically think about arguments and to reflect upon the process to arrive at a diagnosis.*" (Factors affecting the development of undergraduate medical students'clinical reasoning ability. PhD thesis. The University of Adelaide, 2006:1-4)*

OR.

Mattingly. C, " …clinical reasoning involves more that the ability to offer explicit reasons that justify clinical decisions because it is also based on tacit understanding and habitual knowledge gained through experience."

- ✓ From the practical workshop and the worksheets please explain where Clinical Reasoning comes into the MHRA format.
- ✓ Depending on your view on clinical reasoning (knowledge, evidence, analysis vs knowledge gained through experience) does your own view influence the type of intervention in a MHRA that a HCP should take when assessing the complex needs of a client? Again please think aloud when answering.

In managing a complex case, as a senior HCP, based on your responses to the last few questions where on a scale of 1 to 10, with 1 being low and 10 high, is the importance of clinical reasoning in the MHRA?

Policies and Procedures

As HCPs, you have been identified as being involved in some way, through your job function, in the implementation of policies and procedures on behalf of your employers. This group has been asked to consider in a **thinking aloud session** the following key areas of MH work.

- With examples please discuss the MH policy and procedures that operate within your organisation. Have you got a RA process that ensures that when a MH issue arises that in line with the MHOR (1992) that a MHRA can be carried out by a HCP working in the community? Please explain the process.
- Discuss the MHRA format/paperwork provided by your employer which is used by HCP when assessing the MH needs of clients. Does this document travel with the client/patient from the acute sector to the community or from home to respite and Nursing home. What are your views on an universal MHRA form being used by all healthcare agencies when dealing with a client. Is this workable? Explain Yes and No answers.
- What role does the acute sector play in advising, informing or influencing the way in which you in the community deal with MH and the MHRA? What liaison exists between the acute and the community when a client is being discharged home from the hospitals in your area?

- What general health and safety and risk management information is available to you as guidance documents on the use of MHRA in the community?
- Is your RA document based on the HSE (2008) Five stages of risk assessment? If yes, please state what these five stages are. If not explain the system for risk assessment that operates.
- In what ways does your MH policies and procedures form part of an overall risk management plan. For example, The Thomsett (2004) Risk Management Structure. Please refer to the attached slide.

Final general interest questions

- In what ways in your organisation either now or into the future, can clinical note taking be electronically inputted by a HCP in a client's house when undertaking a MHRA? Could plans and update details be printed off and left. Is there a view that all note updates should be office based?
- Monitoring and review process. Have you run any time in motion studies in relation to a complex MH case and the process and time that it takes to fully undertake a MHRA for this person. If the answer is yes then please explain the process from start to finish.
- Would you agree/disagree that the number of complex cases in the community has grown in the last year, two, five years.
- Can you explain how an interest or self help group for HCPs would operate in relation to supporting the professionals in learning how to deal with the increasing number of complex MH cases in the community? Is there scope for sharing positive and innovative ideas within your organisation?

19. Interview Schedule for Participants in a Senior Grade / Management role (Expert)

The purpose of this session is to gather **primary research data** from senior grade therapists with a management role in a community social /healthcare setting. They have a direct involvement in managing staff members who as HCPs are dealing with the complex needs of clients in the community. The content of the sessions will be recorded to allow for the transcription of the **interviews** and to cover the views expressed by the participants. The information obtained will be used in the of the research thesis as a representative sample of the people who participated in the workshops and who practice MHRA in dealing with their clients in the healthcare community setting.

The seniors who were involved in the pre course planning team and then the practical workshop followed by the accessories session will be best placed to participate in this individual and group work. Reference will be made to the worksheets filled out and followed by the HCPs on Jack and Jenny. The general **anonymised views** expressed by therapists in the evaluation sheets will be discussed during the course of the following individual and group interviews.

- ✓ K Recap on the research question and the aims and objectives of the practical workshops.
- ✓ K. Using the information pack highlight the pre course work and the practical sessions that the therapists undertook.
- ✓ Mention about the professional duty of care and the provision of equipment by a local authority
- ✓ Recap about the aims of the accessories workshops that followed the training
- ✓ Ask the group to comment on the achievement of the aims and objectives of the training and refer to the link that will be made to the evaluation sheets. All references to comments in the evaluation will be anonymous

General

Using the power point presentation I want to take you through a range of basic questions. I will ask **each** of you the **same** questions. This will set the background for the involvement/role of the HCP in the MHRA when dealing with clients with **complex needs** in a community setting who may require an in depth assessment for a range of AT equipment.

- ✓ Identify the professional make up of the group. Ask all respondents to give their:
- ✓ Occupation, grade and employer [The therapists can remain anonymous. Names will not be used in the written thesis. The thesis text will read ("…..a group of therapists with an average xxxx years of experience agreed to be interviewed on their involvement with a MHRA for a client with complex needs in a community setting").]
- ✓ Number of years as a HCP. That is, when did you graduate and have you undertaken a HCP post full time/ part time/job share/other throughout this period?
- ✓ Do you work in the community?
- ✓ Are you in a management role within your department. If so at what level?

Education and Training.

In your career to date, can you explain what you have undertaken or been offered/participated in by your employer in terms of formal education and training in health, safety and risk management, prior to carrying out MHRAs? Who teaches you what you need to know about risk assessment? Please think aloud and talk me through this question.

- ✓ Is it your job specific role as a senior community HCP to manage your HCP colleagues who are undertaking the MHRA for clients? Can you talk through the organisational management process that is followed when a client with complex needs is referred to the department for input on MH by a HCP. Using for example, Jack or Jenny, given the MH complexities around these two cases would you have a " hands on" approach to dealing with the cases or would a member of your team visit, document all the details on the form already identified above and then discuss this with you for your advice, input etc . Talk me through the process for supporting and supervising a colleague in this area of work.
- ✓ How involved do you become in the management of a complex case? Is there scope to escalate involvement of other professionals? If so, to whom? Do you have access to any other professionals, safety, risk management or HCP on deciding on what is recorded in the MHRA for a client with complex needs? Is this straightforward to implement or is it based on whether you work for the NHS or SW.
- ✓ What access do you have to other professionals,eg. safety, risk management or HCP on deciding on what is recorded in the MHRA for a client with complex needs? How easy is it to obtain assistance from risk assessment specialists in your area of work?
- ✓ In the courses mentioned in the introduction to this section how much time is spent on the practical problem solving of MH issues and do you get a chance to practise on each other using equipment that you would routinely find in a client's house.
- ✓ Is there a written and or practical examination at the end of your training? Is this a competency test in MH? If so what type of detail is covered? Are there any case study questions which require you to identify hazards, evaluate risks and then add your clinical reasoning to obtain an informed set of outcomes, including the provision on appropriate equipment, that you can then introduce to the client, which is then monitored and reviewed?

Clinical Reasoning

When the phrase "clinical reasoning" is used as part of an assessment what is your understanding of this term.

✓ I have two definitions of Clinical Reasoning. Which comes closest to your thoughts on the term and why?

Anderson KJ. " *A definition of clinical reasoning includes an ability to integrate and apply different types of knowledge, to weigh evidence, critically think about arguments and to reflect upon the process to arrive at a diagnosis." (Factors affecting the development of undergraduate medical students'clinical reasoning ability. PhD thesis. The University of Adelaide, 2006:1-4)*

OR.

Mattingly. C, " …clinical reasoning involves more that the ability to offer explicit reasons that justify clinical decisions because it is also based on tacit understanding and habitual knowledge gained through experience."

✓ From the practical workshop and the worksheets please explain where Clinical Reasoning comes into the MHRA format.
✓ Depending on your view on clinical reasoning (knowledge, evidence, analysis vs knowledge gained through experience) does your own view influence the type of intervention in a MHRA that a HCP should take when assessing the complex needs of a client? Again please think aloud when answering.
✓ In managing a complex case, as a senior HCP, based on your responses to the last few questions where on a scale of 1 to 10, with 1 being low and 10 high, is the importance of clinical reasoning in the MHRA?

As a group.

Complex needs

✓ Explain for the lay person your interpretation based on your healthcare experience on the phrase "**client with complex needs"** for example a family member, a carer, a safety professional in a community setting. Perhaps, using Jack (MS) or Jenny (SCI/obese etc) as examples.

✓ Have you seen a steady or sudden increase in the referral of such complex needs in the last 1 to 3 years. Explain what you have experienced in your clinical practice.

Format: prescribe, inform, quantify.

Explain the format of your existing MHRA form supplied by your employer. Do you know how long this format has been in use? From your experience of managing HCPs who are the client facing, direct point of contact, if you think that the MHRA format needs to be changed to reflect more accurately what you are having to deal with regarding the MH complexities of clients, are you ever involved in suggesting any changes to the form and how it could be made more relevant to the community environment? Does the format just tick a box or does it go further?

Please explain whether you see the managing of the MHRA as a proactive or reactive practice in the community?

Are you a risk taker or are you risk averse?

From a management perspective how would you ensure that the equipment that is prescribed is in the right place and being used correctly? Explain your duty of care to ensure that everyone involved in the person's MH is trained in the use of the equipment. Who is responsible for the provision of training on the use of the AT equipment for clients with complex needs?

Have you a management role in working with the care management and other related teams in the provision of a single MHRA? Please explain the process of working with the care managers/ care agencies. Does the MHRA provided by a HCP in your team influence, change or instruct the agencies what they should be doing when caring for a client with complex needs?

How long does all this work on MHRA take? Have you ever tried to quantify the time involved per case? Would such data be useful to highlight any facts to your line manager?

Quantitative/Qualitative

As a group do you perceive MHRA to be **quantitative** (number of risk assessments carried out, number of hoists and slings provided etc or **qualitative** (view of the person on MH, the involvement of the family and the dynamic of the home etc) ? Please discuss why you think

the subject is either Quantitative or Qualitative. Depending on your answer where can you note this information in the MHRA and is it used as part of your assessment and the review process. (Perhaps it is a bit of both, if so why)?

Monitoring and Review

Take me through the monitoring and review process for a MHRA relating to a case with complex needs in the community. Explain the key factors involved in deciding when you would close a complex case with MH needs.

Legislation

Finally, Do you ever use the actual legislation in the compilation of MHRA?

The following legislation is relevant to MHRA. Other than question 5,by raising your hands please tell me which are true and which are false. I will indicate the responses to enable the results to be recorded. The answers can be Yes/No/ Don't know.

Questions on legislation

7. The HSE have a 5 stages to risk assessment format which is used as a base line for all risk assessment education and training?
8. The HASAWA 1974 is the main item of legislation dealing with an employer's duty to identify and assess risks to employees in their work place as far as reasonably practicable?
9. Do employers have to cooperate and coordinate activities in a workplace in which other people are working to meet health and safety requirements?

Questions on legislation

10. Has an employer, the NHS, got a responsibility to non employees for example members of a Local Authority, community care staff, users etc?
11. Was it 1992,1991, 1989 that the MHOR came into effect?
12. Do the LOLER and the PUWER provide employers with various duties in relation to MH equipment ?

20. Evaluation form from Participant with Mixed Experience

Name: _____ , Date: 25/1/11

Holsts, Chairs & Shower Equipment: Making them Work Together
Course Evaluation

Section 1

1. What new skills/knowledge do you hope to gain as a result of today's course?

Increased understanding risk ex, identifying hazards potential manual handling techniques

2. What do you hope to do better or differently following today's course?

Approach, thoughts following/during MH risk ex.

3. What might be the anticipated benefits of this learning – e.g. to your own professional development, your colleagues/team, to service users?

Service user - ↑ efficiency in problem solving issues if others ↑ understanding of risks/hazards /solutions, chassis technician etc.

Section 2

4. To what extent were the learning outcomes of this learning activity made clear to you?

Fully (6) 5 4 3 2 1 Not at all

Comments:

5. To what extent do you think that the learning activity achieved the stated outcomes?

Fully (6) 5 4 3 2 1 Not at all

Comments:

6. To what extent did the case studies assist in achieving the learning outcomes?

Fully (6) 5 4 3 2 1 Not at all

Comments:

7. What was the most relevant part of the course?

Discussion session & group re: TILE in relation to CS and MH risk ex.

8. What was the least relevant part of the course?

As a new member of staff to CECOT found all parts relevant.

9. Please rate the facilitators?

	Excellent				Poor
a) knowledge of subject	(6)	5	4	3	2	1
b) style and delivery	(6)	5	4	3	2	1
c) creating a supportive learning environment	(6)	5	4	3	2	1
d) encouraging participation	(6)	5	4	3	2	1

Comments:

10. Please rate the resources:

	Excellent				Poor
a) venue	(6)	5	4	3	2	1
b) materials used	(6)	5	4	3	2	1
c) relevant pre event materials	(6)	5	4	3	2	1

Comments:

11. Is there anything you would change about the course?

Introduction into these considerations for mth during a new starter induction.

12. Any other comments?

13. Would you like to participate in future research about the use of manual handling risk assessments?

Yes ☐   No |

If yes, please provide contact details below

21. Evaluation form from Participant in a Policy / Procedure / Advisor role

Name: Date:

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7. What was the most relevant part of the course?

All relevant

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8. What was the least relevant part of the course?

All relevant

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9. Please rate the facilitators?

	Excellent					Pc
a) knowledge of subject	6	5	4	3	2	1
b) style and delivery	6	5	4	3	2	1
c) creating a supportive learning environment	6	5	4	3	2	1
d) encouraging participation	6	5	4	3	2	1

Comments: All very supportive, relaxed teaching environment giving time to participant feeling comfortable asking of advice / questions

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10. Please rate the resources:

	Excellent					Poor
a) venue	6	5	4	3	2	1
b) materials used	6	5	4	3	2	1
c) relevant pre event materials	6	5	4	3	2	1

Comments:

---

11. Is there anything you would change about the course?

More time, practical work, equipment availability locally shared,

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12. Any other comments?

Need to have more of these sessions to aid staff in the decision making, taking responsibility for their decisions / actions, legalities, support networking integrated approach

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13. Would you like to participate in future research about the use of manual handling risk assessments?

Yes ☑   No ☐

If yes, please provide contact details below

___ @ nhs.net

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22. Evaluation form from Participant in a Senior Grade / Management role

Name: _____ Date: 18/12/12

Hoists, Chairs & Shower Equipment: Making them Work Together
Course Evaluation

1. What new skills/knowledge do you hope to gain as a result of today's events course?

Awareness & practicalities of developing a safe and deliverable care plan for individuals — own home. Used format + how to develope

2. What do you hope to do better or differently following today's course?

provide advice for relevant people on difficult problem solving moving + handling issues.

3. What might be the anticipated benefits of this learning — e.g. to your own professional development, your colleagues/team, to service users?

Developement of a care format for joint working with other health care professionals involved in community care.

4. To what extent were the learning outcomes of this learning activity made clear to you?

Fully   (6)   5   4   3   2   1   Not at all

Comments:

5. To what extent do you think that the learning activity achieved the stated outcomes?

Fully   (6)   5   4   3   2   1   Not at all

Comments:

6. To what extent did the case studies assist in achieving the learning outcomes?

Fully   (6)   5   4   3   2   1   Not at all

Comments:

Name: _____   Date: _____

7. What was the most relevant part of the course?

All of it was relevant. The information session ½ day prior to the 18th was helpful to set the scene.

8. What was the least relevant part of the course?

None.

9. Please rate the facilitators?

	Excellent					Poor
a) knowledge of subject	(6)	5	4	3	2	1
b) style and delivery	(6)	5	4	3	2	1
c) creating a supportive learning environment	(6)	5	4	3	2	1
d) encouraging participation	(6)	5	4	3	2	1

Comments:

10. Please rate the resources:

	Excellent					Poor
a) venue	(6)	5	4	3	2	1
b) materials used	(6)	5	4	3	2	1
c) relevant pre event materials	(6)	5	4	3	2	1

Comments:

The ½ day session necessary so people came prepared for full day.

11. Is there anything you would change about the course?

No.

12. Any other comments?

Very informative + really enjoyable - Many thanks

13. Would you like to participate in future research about the use of manual handling risk assessments?

Yes [✓]   No [ ]

If yes, please provide contact details below

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23. Interview Schedule for Participant Validation Interviews

- ✓ For the purposes of the recording I am going to identify the occupation of the people in the room
- ✓ How many people were at the workshops? How many were at the interviews?
- ✓ Were you a Jack or a Jenny Case study?
- ✓ What can you remember about Jack and Jenny?
- ✓ At the end of the workshops or at workshop and interviews did you think you had learned anything? If so what? What were you able to do after the workshops when dealing with clients

- ✓ Questions on:
- ✓ Risk Perception: Hazard Identification and Who might be harmed and how
- ✓ Risk Decision Making: Evaluate the risks and decide on precautions
- ✓ Risk Communication: record finds and review assessment and update if necessary

Recap on the workshops and the interviews:

Today we are doing follow-up interviews or workshops as a 'member- checking' or 'respondent validation' stage to provide some validation of the model or explore whether and why/how actions had been taken as a result of the workshops and first interviews. I would like to utilise any remaining contacts to provide a final follow-up stage to provide further evidence for the final model.

I am going to talk through with you a few ideas and thoughts and the ask you to comment on outcomes from the workshops/interviews which show the level descriptors which have emerged from the data. This will be in an accessible visual format. I will also discuss the training guidance which has already been produced. Narrative and Photos.

Have you ever seen this format before in relation to moving and handling? SHOW THE MODEL.

I have two data sets that were collected. One at the workshops and the other at the interviews.

Workshops: think Aloud and the presentations. Link to the pilot and the Charts. Show the Charts.

We are going to examine the Benner model of experience/competency . Let me recap on the five stages. This was used as an outline and as an accepted researched standard in healthcare practice. Do you recognise Benner and do you think that it is realistic to combine for community work some of the stages?

1 and 2: Novice (1st year and advanced beginner new to the post). (Ruled governed thinking)

3 and 4   (Competent)

5   (Proficient and Expertise)

What do you think the Clinical Reasoning Cycle involves. Just speak openly about your way of dealing with CR and MH and MHRA. Levett Jones 2010.

I am going to read a statement: Clinical Reasoning in MHRA develops through stages of Novice to Competent to Expert as a function of experience. Do you agree and if so why? If not why not?

Do experts tend to use intuition or non analytical reasoning more than less experienced clinicians? Discuss.

Is this a case of NAR in clinical reasoning has to do with the role of experience and the application of an exemplar model of categorisation (e.g. when you see a breed of dog you have never seen before, you just know it is a dog).

It would be useful if you could mention where you were at the start of the workshops and where you see yourself now. Do you think it is important to be at a level of competency based on your knowledge or your organisational grade? Where does this sit with the expectations of your professional body? Is experience a level on a form or is it what you know and how you practice it. ………Tell me if you think that experience and knowledge become intuitive as you get more into the job and understand the processes and practicalities of dealing with people? Is there anything else that you can think of that explains your position on the Benner scale?

When I mention the following themes can you give me your comments as you think of them relating to Jack and Jenny?

Themes: Medical Condition, Equipment, Home Environment, Complexity, Community

I am going to show you 5 themes relating to MHRA in community settings using the headings RP, RDM, RC. Do you think these themes are relevant/ accurate/ reflective of what you will find in dealing with complex cases?

✓ If I show you the following level descriptors can you explain if these mean anything to you and if they act as a prompt to what may have been discussed.

I want to talk to you about Level Descriptors from the findings and the themes. Level descriptors are used to standardise the information collated. Let me explain the form. Please read a Novice, Competent, Expert. Tell me your views on RP/RDM/RC for Jack and Jenny,

✓ Are you aware of the process whereby a Persona is developed around the goals of a person and then developed further by adding tasks?. Have you ever used this system in training? Please explain.

Tell me what you know about Personas?

If I mentioned the phrase Case Based Reasoning are you aware of what this means?

Explain CBR and show the diagram: Use cases already completed to learn about dealing with new cases. It is a "library" of details. It is a case of Retrieve Detail, Reuse Detail, Revise Detail, Retain Detail. In what way would such an approach work for you in you practice?

Would you find this useful at whatever level you are at to describe complex cases? For example a senior/expert in support and supervision with a colleague. Here is a case similar to your case, read and learn from this and build a picture up using this?

SHOW THE NARRATIVE and THE PHOTOS.

How many people have seen the narrative and used it?

Comments please on these pictures. Do you recognise them?

Would you use the narrative in a handling plan along with specific pictures. Is this Risk Management. RP/RDM/RC in practice or is it more than just a MHRA, some notes and a few pictures?

What role could IT play in the development of a MHRA. App, access to client's IT to upload a programme of care which is password protected and can only be changed by a case worker with access to client's details via the NHS or SW.

Where is your role in the integration process?

Do you get enough training and education in MH? Is there scope for more and is this your role and responsibility.

 ✓ Any comments, observations from this session.

24. Example of a Practical Accessories Workshop T70

<div style="border:1px solid black; padding:10px;">

Freeway T70. Decide on the model 17/19/21inches wide

Apply all four foot brakes

Backrest with Velcro

Backrest pad with straps

Thorasics. Small/Medium/Large

Seat width

Seat depth

Four point centre pull belt and fixing of it/Lap belt

Fitting and securing of the seat

Aperture or horseshoe

Pommel

Arm height/adjustment/clip on padding

Footrest. Standard and angle adjustment.

</div>

Accessories for footrests/foot tray/clip on individual foot tray,sleeves/ankle huggers. Anti tip levers/Weights

Information, Instruction

Maintenance

Regular Cleaning

Photographs

Comments:

25. Narrative and Supporting Photographs on using AT in the Community Setting (from W Munro (Rehab) Ltd). ©

Template for hoisting from:

> ➤ Profiling bed
> ➤ Specialised postural management equipment (SPME)
> ➤ Tilt in space shower commode chair (TIS)

From profiling bed to SPME or TIS

> ➤ Raise profiling bed to an agreed working height.

> ➤ Roll client or apply the sling from head to foot using a full body slide sheet.

> ➤ Apply the sling according to the manufacturer's instructions. A copy of the instructions should be included in the personal manual handling plan (PMHP).

> ➤ Consider leg position of the sling, size round clients limbs – width, depth and back height, head support.

> ➤ Ensure client is on the non-moving section of the bed platform. Mark both sides of the bed with coloured tape to highlight this area- move the client to this part of the bed using a slide sheet of this is required.

> ➤ Raise the knee break on the bed to a comfortable and supportive position.

> ➤ Then raise the back height on the bed to a comfortable and supportive position.

> ➤ Ensure staff are trained and competent in the use of the type of hoist in use. A copy of the instructions should be included in the personal manual handling plan (PMHP).

> ➤ Create a suitable working space once the client is brought out from the bed on the hoist

> ➤ Bring in the mobile hoist or traverse across the ceiling track hoist (CTH).

> ➤ Agree the hoops to be used on the sling and peel back the loop and attach safely and securely to the hoist spreader bar.

> ➤ Only hoist if safe to do so.
> ➤ Press the up button on the hoist and take the client's weight into the sling.

> ➤ Simultaneously lower the bed down – This action tightens the sling round the client and stops the sling from moving out of the correct position. You may have to raise the client up using the hoist handset to clear the bed. Only hoist enough to clear the bed.

> ➤ Observe at all times that the loops are secure and that the sling is as comfortable as can be around the client.

- Observe, catheter, PEG, stoma etc. Take appropriate action if any medical equipment is being affected.

- Bring the person in the hoist out from the bed into the working area. You may need to move the bed once the person has cleared the height of the bed.

<u>From the hoist move to a SPME/TIS</u>

Chair (This should already have been correctly set up for the client)

- Bring chair to hoist at a 45-degree angle.

- Do not approach straight to a TIS chair with footrests.

- Tilt chair in space, however depending on clearance height you may need to put the client in the sling over the chair when it is in an upright position and then tilt the chair in space.

- Apply brakes to chair.

- Carer should be positioned on the other side from the mobile hoist.

- The person should be lowered into the chair. The carer should guide the client by the hips/ASIS.

- Observe – clients feet at foot/leg laterals. If required and it is appropriate to do so use a slide sheet to assist into the back of the seat or to correct pelvic position. This technique should only be used on the instructions of a healthcare professional or competent seating specialist.

- Apply four point centre pull harness over ASIS as assessed by a competent person.

- Position client and ensure all areas are supported.

<u>To take the sling out:</u>

- Tilt the chair back.

- Raise the leg rest. This will create space underneath the client's knees.

- Coax the sling out by folding it under the client's knee. Use any bounce from a cushion to continue moving the leg section out. A slide sheet can also be used to assist taking out a sling. **Don't pull the leg section out.**

- Do this on both sides.

- Work to a non-affected side first. Encourage the client to assist in transferring sitting weight.

- Then twist and roll the sling up to the four point centre pull belt (4PCPH).

- Carefully undo the (4PCPH) and continue to roll the sling out on both sides.

- ➢ Reconnect the 4PCPH and tighten to trouser belt tension.

- ➢ Continue to roll the sling out, work round any thoracic supports.

- ➢ Bring the chair to an upright position. Roll out the sling at the client's back.

- ➢ Position the chair according to postural management notes: add notes to personal care plan.

Applying the sling in a chair

- ➢ Have the chair in an appropriate working area and in an upright position.

- ➢ Drop the sling down the client's back. Align the sling using any positioning markers on the sling.

- ➢ Remove, raise, adjust arms on chair to assist in applying the sling. If this is not possible, rock the client from side to side. Use manual handling techniques shown at manual handling training to carry out these manouevres.

- ➢ Consider using a slide sheet to apply the sling. This technique should be used under the direction of a competent person.

- ➢ Raise the leg section to the chair to off load the weight of the client's thigh.

- ➢ Work the sling through. This will prevent shearing on the skin on the underside of the client's femur.

- ➢ Apply the sling under and through at the legs.

- ➢ With the sling in place the client must be able to bend his/her legs when hoisted. The sling should be positioned two fingers space behind the back of the client's knees.

- ➢ Bring the chair to the upright position. It may be safer to have the client in a 10 degree/15 degree position.

- ➢ Decide where the client is being moved to, a bed, a wheelchair, other item of equipment.

- ➢ Organise the other equipment and create the necessary working space for this move.

- ➢ Bring the mobile hoist in at a 45 degree to the chair or bring the CTH into place above the client

- ➢ Apply the sling loops to the spreader bar. Visually check the loop configuration. Only hoist if safe to do so.

- ➢ Take the client's weight into the sling. Observe the sling position on the client. Alter the sling as appropriate. As the client is going up, a second carer using the chair handset, should bring the chair forward into a sitting position.

- Hoist the client up and move in towards the bed.

- The bed should be in a profiled position – leg and back brake up.

- Lower client into the non-moving part of the profile. This should be marked using coloured tape.

- Adjust the profile – leg down first and then the back, leave client in an appropriate position on the bed.

- Moving to a chair. Hoist the client up and bring the chair in towards the hoist at a 45* angle. Avoid twisting and moving the hoist with the client in it.

These notes can be adapted for other manoeuvres. They must be used alongside other critical notes on the care and well being of the client. All relevant manual handling plans must be monitored and reviewed by a competent person. Carer's, family members, health care staff can participate in this work.

Photographs

To assist in the interpretation of the notes by consent and with the approval of the client or their advocate appropriate photographs may be used alongside some of this narrative. Photographs should show the actual equipment in use. If this equipment changes then the photographs need to be retaken and the handling plan updates.

Changes in the carer's use of equipment should take place with the provider of the equipment.

- Cover servicing and maintenance of hoists – LOLER.

- Cover what to do in the event of a breakdown.

- Include contact details for the healthcare professional who is involved with the case.

26. Height Adjustable Profiling bed with no mattress to indicate the three positions of the bed platform and the non moving section for sitting. Patient sling is positioned on the backrest.

27. Height adjustable profiling bed with anti pressure mattress on top of the bed platform

28 Height adjustable profiling bed with mattress on top of profiled platform, sling in position and mobile hoist angled to the bed

29. Postural managed tilt in space seating system with accessories with mobile hoist angled at 45* to the chair

30.Specialist tilt in space wheeled shower/commode chair with accessories and hoist at 45* angle to the chair

Table 7.4: Interview findings from 'Jack participants' about Risk Perception   **(Appendix 31)**

Key:

Novice   **(Mixed Work Experience role)**   **Taught general rules in clinical practice**

Competent   **(Policy and Procedure role)**   **Prioritises details in clinical environments by experience**

Expert   **(Senior /Team Management role)**   **Intuitive understanding of clinical situations**

Job role / Theme	Mixed Work Experience (Novice)	Policy and Procedure role (Competent)	Senior / Team Management role (Expert)
Medical Condition	There is a basic understanding of MS and can access information on the presenting factors about the condition. Two HCPs commented that nowadays **" there is more awareness of conditions."** Using a previous case as an indicator of the way in which Jack may respond physically as well as psychologically about his condition. Gathering information on each visit and trying to put it into a plan to develop the MHRA around Jack	Has a picture of where Jack is on his **"MS journey"** Realises the progressiveness of the condition and acts on the contrariness of some of Jack's comments about moving and handling. For two HCPs it **is "also about knowing what the condition is especially the diagnosed/undiagnosed neurological type conditions."** Can see that his transfers are unsafe and inconsistent, his unwillingness to help is a hazard as well as his aggression. These are hazards to the carers and the HCPs. The assessor is able to work with other professionals in trying to focus the assessment on Jack's needs based on the identified MHRA hazards. Will compare notes with colleagues. May visit with another key handler or ask advice from another professional around safety. Two therapists mentioned that they could go on a **"joint visit with a senior OT. There are different levels of experience and interest in area teams. All should be willing to offer advice etc."**	At support and supervision discusses with staff the ways to potentially deal with the condition led hazards noted about Jack. Two HCP respondents noted that the client was **" not straightforward"** and that there was **"not a simple solution to what the client was like and how the client presented."** Clinical assistance on how to manage him through his medication via the GP and DN as well as deal with the psychological issues involved in his care. Both therapists continued to comment on the multiple care needs of the client , reduced mobility and cognitive issues. There is evidence of **"a combination of conditions….long term conditions."** Discuss coping mechanisms. Monitor and review the condition and intervene if changes are reported. Ensure safety of staff and discuss how to deal with Jack's aggression at visits and at times where changes to his care, his environment are raised.

Home Environment	Look for hazards around Jack's house. Be **" aware of other home constraints"** Getting to know Jack and through building a relationship with him attempt to change the layout of his house to help carers move and handle Jack in a more appropriate and easier way. Eg furniture position, access issues. Four HCPs noted that **"the environment is a much bigger picture than just the medical scenarios."**	Accepting that Jack's house is his home and understanding his privacy needs. Three HCPs commented that **" you can't just ask for change …I suppose it is the way in which it is said."** At the same time ensuring that the Jack and the carers are not working in an unsafe environment. Making small changes about the furniture and reinforcing the need to have hoisting and moving and handing equipment in place to ensure that any hoisting and positioning tasks can be safely carried out. Starting to discuss with colleagues and senior staff any equipment changes that may be required.	Working with the HCP who is visiting Jack to ensure that the environment is suitable to meet everyone's needs. Identifying that there is **"clutter"** in the house and an unwillingness to move furniture is potentially a key issue that needs to be addressed. Two therapists noted that there can be client **"resistance to equipment."** Working out with practitioners how layout changes can be achieved that is acceptable to the client. At the same time realising that the information coming back from the practitioner may need to be escalated. Starting to plan for different equipment and the way in which this can be introduced to the client. Ensuring that the systems of work/ training of the staff are matched to the needs of the client, there is space to work and to safely use the equipment.

Equipment	Difficult to remember everything to do with the equipment: Tends to be a case that the equipment is delivered and the HCP has to show people how to use it. Many questions about the equipment which appear difficult to deal with: What are you doing that for? What is this part used for?	Has an understanding of the equipment. In a situation where the HCP does not want to over prescribe but realises the changing nature of Jack's condition and the hazards of falls. Realises that if the equipment is not used properly by all carers and HCPs that there is the hazard of injury to Jack and his carers and this comes with a high risk score. The observation from five healthcare professionals is	Has a list of the hazards and the risks associated with the hazards. In discussion with the allocated HCP the senior wants to know if the right equipment is in the right place and is being used correctly by everyone dealing with Jack. Several of the seniors noted that **"the MHRA helps consolidate what you are thinking and puts things in order. …. (the seniors are) starting to build a picture of what we can do for this person with equipment."**
	Tend to deal with equipment in isolation of other product. Referring to equipment two HCPs noted that it is **"larger hospital type equipment that is in the home. Equipment can be a bit of a hit or a miss in the community"**	**"..can we do this adaptation to assist with more space for the equipment that will be needed as part of the MHRA?"**	Potentially some of the information reported in the notes about Jack's equipment would make the senior review the equipment and its suitability to meet his current and medium term needs

Complexity	More awareness of conditions based on university education, placements or doing the job over a period of time. Not always dealing with the complex type of condition so have to take time to understand the whole background of the client, potential hazards that are present and his needs: for 2 OTs there is the **"need to watch people and understand what they are saying."** Jack's condition makes him complex: **" the OTs have more people allocated to them with complex needs."** so they need to work out what are the hazards and try and quantify the risks.	Understands the implications of Jack's case: Complex means changing condition led needs. For two therapists they are **"dealing with complex cases on a daily basis. 90% of the work is complex."** Can see the hazards and start to evaluate the risks. Thinking of who might be harmed based on Jack's presenting condition: Jack may use or in the future need various items of equipment: what are the hazards around his use of equipment and then rate the risks as part of the MHRA. Knows that there will be many different professional groups involved with Jack. **"the network of people kicks in about Manual Handling."** At this stage dealing mainly with his needs relating to the DN visiting or the OT being involved: key handler approach where there is a good understanding of Jack but can't change all the practices around him, requires to refer to a more senior member of staff but can provide the senior with all the relevant information around Jack's moving and handling needs.	Advisory and decision making role based on clinical experience and length of service. Aberdeen City Council/Bon Accord Care 12.60 years. City of Edinburgh Council 15.60 years. Understands the holistic approach to working with Jack. For two HCPs this is **"thinking beyond the diagnosis…..being holistic, it is the best way to be…"** For one OT, **"I couldn't do my job unless I thought out things beyond the diagnosis."** Is aware that the risks are high because the range of professionals that are involved all have their own priorities for Jack. For several senior practitioners the priority of the case is decided **"by its complexity."** Using risk analysis to see which hazards and risks are the highest and dealing with them in order: Based on MHRA considers as a long term goal what care, equipment, input is required to meet his complex needs. Is aware of the whole picture around Jack's needs that require to be considered. Through monitoring and review the need to be fluid and flexible in making changes to Jack's care. When to know that additional help is required from other professionals as a way of joining forces to deal with Jack's complex case. For three HCPS **"All the HCPs are aware of the Manual Handling needs of clients and the role of the MHRA."** They see it from their professional background and acknowledge the input **from their professional colleagues and the input of carers and others involved in MH. "**

Community	The identification that there are an increasing number of complex cases; Two HCPs believed that **"complex needs means changing needs."** in the community. There is an understanding amongst four HCPs who mentioned that there is **"Less emphasis in admitting people to long term care and into hospitals."** Looking at the community angle. Seeing more community cases. The cases allocated to a community worker can be so variable that it is only through time, experience and education and training that a knowledge of the different conditions is learned. There is evidence from four HCPs that this is the case. They believe that **"it is practice through experience and knowledge."**	There is the reality in community work that the hazards and associated risks are there. **"In the community there is an element of risk that we just have to accept…that is the community environment."** There is the potential that HCPs have to be reactive to what they find when they visit Jack in his own home. How they leave him at the end of one visit may not be how they find him at the next meeting. For one HCP. **"It is also about listening to the experience of the HCP who is trying to offer advice and best practice and to give then the respect of knowing what they are saying is correct."** There is the need to work with different carers all the time and to try and ensure that they provide consistent care to Jack. Three HCPs highlighted that there is a view that some of the carers are unsure of their role and responsibilities**…."there is confusion and the route is back to what is in the MHRA and who has done this MHRA."**	Understanding and offering the relevant support to staff given that Jack is only one of a caseload of complex clients that staff may be dealing with at a specific time. Ensuring the tenets of community care are being used to deliver the correct care to Jack. For five senior OTs they want to **"show and share with the care coordinators the MHRA."** They want to go back and review the case. Look at how the carers are handling the client and comment on it to help improve/explain etc**." Picking up through discussion if Jack's life in the community is meeting his needs as well as safeguarding the staff who are working with him"** and who have identified in a MHRA the hazards that they face in his home.

Table 7.5: Interview findings from 'Jenny participants' about Risk Perception

Job role / Theme	Mixed Work Experience (Novice)	Policy and Procedure role (Competent)	Senior / Team Management role (Expert)
Medical Condition	The HCP will be aware from the clinical notes of the medical details relating to a plus size person. For two HCPs at this level in their career it is important to identify hazards around their condition, eg the weight of the person and the implications for mobility. With this information and the assistance of their more experienced colleagues they can **"focus on the best possible way of dealing with the client and then refocus."** Potentially there is practical and theoretical knowledge to be gained from this approach.	There is a focussed awareness of the comorbidities of Jenny. She has type 2 diabetes, high blood pressure, poor skin integrity, continence issues and low mood. There are clinical hazards with high risks associated with all these medically diagnosed conditions. Her weight issues will affect her blood sugar levels and have an impact on her blood pressure. Her continence issues will impact on the pressure and skin integrity problems in her sacral area. They will be working to improve Jenny's medical issues and will be attempting to prevent further deterioration across healthcare professionals. They are always looking at the **"bigger issue and the need for greater awareness of these issues. They will know from experience the number of lifts and moves. The DN and the OT will be jointly communicating."**	The senior is working with more junior staff in combining practice with analytical skills to come up with workable solutions that meet the client and the carers' needs. The senior has a professional role that offers advice based on knowledge, experience and the ability to problem solve. For three seniors they may be looking at the medical situations, prioritising them in discussion with other medical staff and about **"noting the dynamic nature of this type of risk and ensuring that as much as possible can be captured."** There is the realisation that in a short period it could all change again.
Home Environment	The realisation that **"people are in their own homes with carers and there can be risks"**	The understanding that **" the overall environment can bring issues"** when dealing with the needs of bariatric clients. Space constraint is a hazard with a high risk. Staff need space to store, use and keep larger items of equipment. This tends to be hospital size mobile hoists in a domestic setting .Staff need turning circles to safely maneuverer the equipment. Assessment of the person, the equipment and the environment using TILE.	The equipment and the environment for the senior potentially poses the greatest hazard and risk issues when dealing with a complex plus sized person.

| Equipment | By making a list of existing equipment and understanding from carers and Jenny if the equipment is meeting needs. For several HCPs it is important to relay to the client and the carers that the**"person will be assessed first to see the suitability of the equipment needed."** | Hazards around the equipment with a risk scoring have been established. Several HCPs noted that it is important using the MHRA to **"get your head round"** working with all the equipment. | Five seniors discussed the provision of equipment and the thoughts that they sometimes have about **"creating mini hospitals in peoples' houses."** The seniors have to weigh up the options of how equipment can be best applied. Using the MHRA they are in a better position to identify hazards and associated risks which can be taken to meetings as the reason for providing a hoist, bed, chair etc. Complex cases can change quickly and clients can lose their independence quickly. Other medical factors can mean that equipment is required urgently eg to deal with personal care and continence issues . The plus size person's environment is not always suitable for the size of equipment. Equipment itself can be a hazard. The client over the safe working load of a hoist or a bed is a hazard. The bed can break, the hoist stop working. The seniors are aware that **"for people who have had to face a major life change medically they struggle to see how equipment can be used, the space it takes. It isn't always possible to get agreement from (people) families to have equipment in their houses without it coming across as invading their privacy. "** That said, the senior has to consider the wellbeing of the carers and in order to provide care requiring equipment a compromise and acceptance from the family is required. The seniors are aware of the relevant legislation and can use this if required to support their case for equipment. |

Complexity	Awareness that a complex case for a plus sized person is very much an observation of how the client presents and how other HCPs advise and deal with a client like Jenny. Several therapists thought that in discussion with colleagues they would work out **"what is a hazard and what is a risk."** relating to Jenny. Complex for Jenny according to three HCP is **" condition led, long term care package."**	**"For client centred approach, risk is there, have to reduce the 'jaggedy edges' of the risks. There is a balance."** The HCPs involved in working with Jenny will be considering the **"whole issue around the whole person."** There is the perception that complex needs more than the usual one/two carers to do the tasks needed for Jenny's care. They will perhaps view complex as **"anyone who requires assistance of one or more people to initiate a move or a transfer."** Add to that the complex can also be considered as **"people who are at high risk of their daily care."**	Jenny's weight, body shape, size, home environment are all hazards which when combined present as a challenge to the expert. For the proficient and expert there is an experiential working knowledge of complex cases but the combination of Jenny's conditions and her comorbidities makes it vital that the MHRA **"is right from the beginning."** Others will look to the seniors for guidance on dealing with Jenny. The idea of **"where do I go next."** The analytical approach taken by the expert will look at the overall scenario around the client and deal with the changes in medical, social and psychosocial factors. The ability to call in experts on structure, equipment and establish that there is a **"need to work and link together in a "24 hours approach to the care needed by the client"**

Community	In discussion with the HCP at this stage, the senior **" would assign someone to co work with the newer less experienced person. For example a Key handler. This is routinely the case."**	For a complex case like Jenny three HCPs noted that **"in a community setting a whole different set of options are routinely faced. On an A to Z scale we could go from point A to D and then back to C before moving to G and then back to D."** For one person in this group this is **"where the MHRA gives the direction."**	There is an awareness that Jenny could be admitted to hospital at any time. The expert in the community understands that HCP will have a different **"vision of acute and community."** Several HCPs noted that **"there is little contact with the acute sector, no joint visits and assessment prior to discharge."** With this issue in mind, the expert will see the potential for the mismanagement of the client as a set of hazards. In an acute setting these hazards are not perceived as the same type of hazards found in the community. The expert will take this view on board and make attempts to bridge any potential gaps in the care.

Table 7.6: Summary of How Interview Data on Risk Perception was Coded to Generate Level Descriptors

Benner's Stages and Descriptors	Stages of Clinical Reasoning in MHRA in Community Settings and Descriptors with Supporting Quotes
Novice 1. Taught general rules to help perform tasks 2. Rule-governed behaviour is limited and inflexible "Tell me what I need to do and I'll do it"	Novice 1. awareness of clinical conditions "based on university education, placements or doing the job over a period of time under supervision." 1. & 3. in discussion with colleagues they would work out "what is a hazard and what is a risk"
Advanced Beginner 3. Pays close attention to the practice of colleagues 4. Experiences the situation as a myriad of competing tasks 5. May experience worry and anxiety over not knowing how to prioritize tasks	3. normally works with a more experienced HCP "would assign someone to co work with the newer less experienced person. For example a Key handler. This is routinely the case." 4. aware of the five hazards: Medical Condition "there is more awareness of conditions [from university education]" Home Environment "people are in their own homes with carers and there can be risks" Equipment "equipment can be a bit of a hit or a miss in the community", and "person will be assessed first to see the suitability of the equipment needed." Complexity "complex needs means changing needs" but may have limited understanding of community care model
Competent 6. Able to prioritize information based on past experiences 7. Aware of long term goals in patient care and needs	Competent 6. & 8. aware of the five hazards but tends to perceive situation as whole parts "whole issue around the whole person," "bigger issue and the need for greater awareness of these issues. They will know from experience the number of lifts and moves. The DN and the OT will be jointly communicating," "For client centred approach, risk is there, have to reduce the 'jaggedy edges' of the risks. There is a balance." 7. aware of long term goals and may recognise the triggers of change whereby the client may not or doesn't accept the changes. For example, increased aggression leading to unwillingness to help and then either violence or a fall due to lack of coordination. 10. continues to build experience "It is also about listening to the experience of the HCP who is trying to offer advice and best

Proficient	practice and to give then the respect of knowing what they are saying is correct," "joint visit with a senior OT. There are different levels of experience and interest in area teams. All should be willing to offer advice etc" but knows what to expect and how to modify plans "in a community setting a whole different set of options are routinely faced. On an A to Z scale we could go from point A to D and then back to C before moving to G and then back to D."
8. Perceives and understands situations as whole parts	
9. More holistic understanding improves decision making	
10. Continues to build experience but knows what to expect in certain situations and how to modify plans	
Expert	Expert
11. No longer relies on an analytical principle (rule, guideline, maxim) to link an understanding of a clinical situation to a relevant action	11. thinks beyond established parameters "thinking beyond the diagnosis…..being holistic, it is the best way to be…", " I couldn't do my job unless I thought out things beyond the diagnosis."
12. Level of accuracy, an intuitive understanding of each situation and has the ability to get to the point of the whole issue directly	13. understands fluidity and flexibility in situations "the dynamic nature of this type of risk and ensuring that as much as possible can be captured," "need to work and link together in a 24 hours approach to the care needed by the client", "there is little contact with the acute sector, no joint visits and assessment prior to discharge"
13. Fluidity and flexibility around the understanding of the total situation that is presenting by the client	14. can be analytical when no experience to draw on "not a simple solution to what the client was like and how the client presented."
14. Can be analytical when required if no experience to draw on	

Table 7.7: Interview findings from 'Jack participants' about Risk Decision-Making

Job role / Theme	Mixed Work Experience (Novice)	Policy and Procedure role (Competent)	Senior / Team Management role (Expert)
Medical Condition	The risks around Jack's medical condition will be dealt with primarily by the competent and proficient staff. His clinical needs pointed out by the senior HCPs will take into account and recognise the risks around his extensor pattern and his aggression. Other medical details will be documented in his case notes. Various HCPs noted that it is important that the **"complexity of the situation is addressed and the involvement of professionals is greater."**	The HCP should identify through regular discussion with Jack and his carers when his condition changes. They should be able to identify key MS related issues to do with continence, dexterity and fine motor control as well as falls and manual handling requirements. A few HCPs mentioned that with a deterioration in conditions there is frequently a close link/relationship to carers and that **"homecare staff are very aware of the needs of clients and make referrals for OT input on manual handling issues as well as other problems."** Decisions on his care, changes to his handling plan will then be based on the identified needs and recognised outcomes to ensure Jack's safety and that of his carers and HCPs who are helping him. This discussion will normally happen with Jack to ensure that he is part of the decision making process. Continuity of carers and regular updates on their training is part of this decision making and precautionary led process.	The medical facts reported to the senior will routinely cover changes to Jack's clinical condition. The senior will want to establish that the clinical reasoning of the HCP is consistent with the reported changes. Where a change of care package or new equipment is required then the senior will be using the report on Jack's clinical needs to make decisions about potential change. For one senior we **"seem to be reviewing a lot more and spending time with people who just need more help and assistance at all stages of their condition."** The senior will use her clinical knowledge and experience to ensure that it is a measured response that is offered to Jack about the changes in his care and equipment. Other changes may require a referral to other health professionals for their advice and assistance. For example a clinical psychologist to assist in anger management related to his verbal aggression. The outcomes of these other referrals will need to be noted in his care plan and all staff given an update on their training. For three participating OTs they feel they are placed in a position where they are the **"fountain of all knowledge"**

Home Environment	Unable to do a great deal around the changes that need to be made in the environment. For several therapists **"a huge factor to consider is the acceptance of the equipment in the home."** Need to get to know Jack better before moving furniture. Acknowledge that changes are needed and help others who may be able to influence Jack in a positive way. For example, work with his friends to try and get them to make changes in discussion with Jack.	In order to use the equipment around the house and to enable Jack to move as free as possible from room to room, the HCP should look to take a view, a perspective, on what changes are needed around Jack's living environment. Five HCPs mentioned that **"when you go into the community you are working in that person's environment. It is a different set of circumstances."** The HCP accepts that he has potentially got everything where he wants it around his house. From the hazard identification process the HCP is able to highlight problem access areas and equipment turning circles. Given the regular contact with Jack and his carers the HCP can try and effect small changes. Two OTs mentioned that they would **"discuss the role of the MHRA and the hazard identification, Risk Evaluation and the outcomes as the next stage."** For two of the HCPs this is a case of **"where do I go next whilst having the ability to stand back and see the 'wood' from the 'trees'."** The HCP will also try and make it clear that carers can't regularly lift and move furniture. There are some long term changes that are required. The key handler will have the experience and the awareness of how to deal with the comments and potential unwillingness by Jack to make changes. The skill is in trying to walk him through the issues and engage him in the changes that are required.	If there are unsafe practices due to the environment where staff are working the senior HCP has a duty to staff to ensure that changes are made. In discussion with competent staff and key handlers a plan as to how the changes are made can be talked through. **"Any follow up would be with the OT. ….if there is a different way to use the equipment or the (carers) didn't know about the equipment, then the OT will call in the MH trainer from the agency and then that person will be shown or have the equipment demonstrated and how the equipment has to be used. The details will then be noted in the handling plan."** It is likely that the senior may visit if there are several key issues that need to be discussed with Jack about the changes to his home. Jack has the capacity to make decisions. This has to be recognised as well as the needs of the carers and the use of equipment to assist him in his daily tasks.

Equipment	Will tend to use the equipment that is in place at the time of a visit. One HCP highlighted that **"equipment although helpful is an intrusion."** May ask questions based on reading the MHRA in Jack's home about the assessment process adopted for the provision of his existing AT equipment. Will offer possible feedback to a senior if there are reported problems with the equipment. **"There is then the ' refer on' process to the senior OT."** This could be the way the equipment is being used, " there is more equipment available" its perceived suitability or if it is not working properly and may require an engineer to visit or a senior to reassess. Two HCPs made the observation that Jack may **"have to accept sometimes that things are changing and that equipment assessed for clients' needs is required and is essential."**	The provision of the equipment should be part of this HCP's decision making role. A hazardous situation, eg a fall to the floor has been identified with a high risk of injury to Jack and the carers who need to assist him. There is the risk that the HCP is not familiar with the most suitable item of equipment to reduce the identified risks. The HCP may need to visit with a trusted specialist equipment advisor/assessor to ensure that the right size and specification of the equipment is chosen and can be used within the house. The HCP has the authority to assess Jack using various items of equipment and to base their clinical reasoning alongside their ability to provide the equipment decided upon within their service. A group of five HCPs advised that **" staff need to think through these spatial issues and need experience from a senior who can help with this."** All this needs to be part of the MHRA as it involves the client specific assessment and the MH of the carers and other professionals involved. This HCP will be able to make recommendations to provide Jack with the necessary equipment based on the assessment. The senior or an equipment panel will potentially make a purchasing/provision of equipment based on the outcomes of the assessment. The competent HCP has the duty of care to ensure that the right equipment is in the right place. This should make sure that the correct decision has been made and that suitable safety precautions are in place for Jack and his carers.	The decision making process about the equipment should be based on the details available from the MHRA. For three key handlers **"The aim is for complex cases and others who need MH equipment to have an accurate and relevant MHRA and a suitable handling plan based on the MHRA."** The clinical reasoning of junior HCPs should allow the senior to add this level of detail to the notes about Jack to form an accurate opinion of the changes needed to Jack's equipment. Equipment is expensive and should only be provided if it meets the clinical needs of the client. There are training issues which routinely need to be discussed with the carers, their managers and the agency that employs them. The contents of the MHRA should be the route that is chosen to systematically identify any additional hazards and to evaluate the risks based on these hazards. The key handlers are **"encouraging"** carers to put **"the handling plan on the walls around a room for easy reference and access."** The senior will have the knowledge about the PUWER 1998 Regulations and how they apply to the use of the equipment as part of the MHRA. The equipment should be serviced in line with LOLER 1992. This reduces the risk of equipment failure and is a mandatory requirement and as a precaution to any potential injury to Jack or his carers. Five senior HCPs discussed the **"review of equipment through PUWER and LOLER."** In the questions on legislation all participants at the interviews were asked 6 questions. They also cover the legislation in their formal training courses. The legislation is part of their theory examination.

Complexity	From education and training and following the policy and procedure from employers, list the hazards and then evaluate the level of risks around Jack's case. Assistance from an experienced practitioner may be required to cover all the hazards and to ensure that proportionate risks are evaluated. Two HCPs highlighted that it is about **"going with a senior or more experienced member of staff and observing what they do."**	Using the format from the MHRA the hazards and risks around Jack will be part of the decision making process that leads the HCPs to continue with Jack's care as it is or recommend some changes. For example Jack needs to be hoisted if he falls on the floor. It is not an option to physically lift him up. For several HCPs **"it is the action principles on Manual Handling that are relevant no matter what you do."**	Realising that Jack's MS is progressive the senior wants to establish that the priority hazards and high associated risks are being managed, documented and reviewed. Three senior practitioners noted that **"no one has defined complexity for the community. (we are) "just aware of it that the situations faced in the community and the cases that are being dealt with are complex by definition of the word complex."**

Community	The need to work with other community professionals will be part of the learning process of the novice. Two HCPs commented that it is about **"initially asking other OTs in the department to get advice."** Observing and noting how other HCPs make decisions is an important way of gaining knowledge and experience. The HCPs believe that there is **"better joint working than before."** Being part of this team approach is positive for professional networking as well as acknowledging the role of different professionals who are dealing with and making decisions about Jack's needs. The two HCPs who answered this section would **"refer to others who are involved in the case."**	At this level of the input with Jack the HCP will be involved in making decisions with other professionals about Jack's care. Observation and participation in his health and wellbeing needs should be a team approach. **" look at innovative ways. Involve the specialist. Take time and find the right HCP person. Involve the specialist advisor."** Linking to professionals in the community equipment store, working with the MS community specialist and potentially the Community Psychiatric nurse should all be part of the decision making skills of the competent HCP involved in the complex needs associated with Jack.	The senior with a high level of analytical skill will be able to decide on any changes to Jack's care based on the risk facts and evaluations that are being reported back. The management of clients like Jack who are living in their own homes are the basis for the decision making processes that managers are trained to identify and deal with as part of the community care legislation. Preventative proactive action is a key objective of the seniors. It is also noted that reactive situations arise and in Jack's case change can be instant and full of hazards with high risks. For five senior OTs if there is an issue with a client for example over an item of equipment that may not be meeting his needs the professionals would state; **"stop, we have a duty of care and we want something done differently."** Understanding that clinically an infection can change how Jack is cared for is an important part of managing staff who in turn manage clients. The carers and their management teams should be trained to deal with the first level of response to a change in Jack's condition. They should be aware of the need to report any issues so that appropriate HCP led action can be implemented and precautions taken to avoid an escalation of his change.

Table 7.8: Interview findings from 'Jenny participants' about Risk Decision-Making

Job role / Theme	Mixed Work Experience (Novice)	Policy and Procedure role (Competent)	Senior / Team Management role (Expert)
Medical Condition	The HCPs have a basic understanding of the medical conditions of the plus size person. They can refer to other colleagues eg senior, GP, DN, Reference books. It can be a challenge to make a link between the different conditions. Decisions are at a more senior level on care, MHRA etc.	Decisions by the expert are based on **"knowledge and understanding of the medical condition."**	The seniors in the two areas where the research was carried out relied on **"access to other professionals for help."** These could be SALT, PT, Dietician. There is advice from professional groups College of OT, CSP, RCN as well as GPs and the NBE regarding MH of Plus sized people.
Home Environment	For a HCP working at this level there is the potential to make decisions around the possible changes that are needed to the client's environment to allow for suitable space and the introduction of equipment. For several mixed experienced OTs there are **"so many factors in the community"** that need to be considered. Therefore working with a more experienced colleague is preferable.	The HCP is very aware that **"decisions are based on all factors to do with the client, particularly their surroundings etc."**	For several seniors it is important to establish **"joint working and visiting"** to reach a view on the decisions around Jenny's care and who could be harmed. Five seniors agreed **"understands from experience, training and knowledge that a client's home can be hazardous with high associated risks. "**
Equipment	For four mixed experience therapists there is the potential **" to carry out joint assessments with equipment…and try and get an insight into the use and workings of the equipment."**	Three HCP observed that in Jenny's case it is important to **" look at the way you are moving the equipment …and work out the best way of dealing with these moves."** Several therapists noted that in using clinical reasoning to reach decisions about Jenny then if the **"environment is not right then the product doesn't suit the client's needs."**	Several therapists commented that **"is the equipment the right item in the right place and how do we go about this equipment provision with the least disturbance to the family/friends/others?"** The senior will look at **"using the MHRA and its format to help."** The senior is also aware that **"equipment doesn't move in and out quickly so change is difficult."**

Complexity	For several HCPs at this stage in their career it is important to get **"hands on practical help….the best is working with colleagues."** who are trying to establish the care needs of the bariatric client.	Three key handlers commented that in dealing with a complex case it is important to establish the process of **"how we come to a decision pulling all the details together from the assessment."** They continue that it is good when the HCP team come from different disciplines. This was we **"come from different angles, gather information but come to the same conclusions at the end."**	One Senior OT made the point that **"different staff learn at a different pace and that needs a bit of work. Clinical reasoning doesn't always come naturally."** This is possibly the case with plus sized people as MH events can be changing frequently. It is important for three professionals that for Jenny's type of complex case **"We need to have the process in place no matter what the experience of the HCP so that everyone can pick up the clinical reasoning process."**

Community	One senior noted that she would meet and discuss complex community cases with her team **"deal with the OT at supervision and discuss the complex MH cases"** and then encourage the HCPs to **" go and try this idea."** with the client and to do so with "confidence." It is for several seniors **"unrealistic to protect a new graduate from a complex case."**	**" go to the community situation with an open mind and translate the basic training to what you see in that environment."**	**"know from experience"** all the factors relating to a complex plus sized case and the potential lack of resources. In discussion with a multi-disciplinary team looking at the plus size person the senior will be considering the potential **"transfer of resources amongst professionals. "** For example, the current use of a mobile hoist is not meeting the client's weight needs nor the hazards faced by the carers. The possibility of a ceiling track hoist and the funding of this equipment will have to be secured from a different budget." The expert will know how to manage the process within the organisations. That said for a few HCPs despite plans for integrated services there is the risk with the NHS and SW involvement that **"….to all intents and purposes the two organisations work independently with the same patient/client."**

Table 7.9: Summary of How Interview Data on Risk Decision-Making was Coded to Generate Level Descriptors

Benner's Stages and Descriptors	Stages of Clinical Reasoning in MHRA in Community Settings and Descriptors with Supporting Quotes
Novice 1. Taught general rules to help perform tasks 2. Rule-governed behaviour is limited and inflexible "Tell me what I need to do and I'll do it"	Novice 2. follows established rules / processes "person will be assessed first to see the suitability of the equipment needed" , " carry out joint assessments with equipment…and try and get an insight into the use and workings of the equipment." 3. defers decisions to more senior colleagues "There is then the 'refer on' process to the senior OT," "refer to others who are involved in the case."
Advanced Beginner 3. Pays close attention to the practice of colleagues 4. Experiences the situation as a myriad of competing tasks 5. May experience worry and anxiety over not knowing how to prioritize tasks	3. recognizes the importance of learning by observing more senior colleagues "going with a senior or more experienced member of staff and observing what they do," "hands on practical help….the best is working with colleagues." 4. may not know how to prioritize hazards / risks as there "so many factors in the community" 4. & 5. makes decisions based on current home environment although home environment and equipment may not be appropriate "a huge factor to consider is the acceptance of the equipment in the home," "equipment although helpful is an intrusion."
Competent 6. Able to prioritize information based on past experiences 7. Aware of long term goals in patient care and needs	Competent 6. prioritizes information for decision-making "discuss the role of the MHRA and the hazard identification, Risk Evaluation and the outcomes as the next stage", "where do I go next whilst having the ability to stand back and see the 'wood' from the 'trees'." 7. Aware of long term goals as complex cases are "condition-led and come with a long term care-package."
Proficient 8. Perceives and understands situations as whole parts 9. More holistic understanding improves decision making 10. Continues to build experience but knows what to expect in certain situations and how to modify plans	8. considers situations as whole parts when making decisions "decisions are based on all factors to do with the client, particularly their surroundings etc," 9. "how we come to a decision pulling all the details together from the assessment" but although aware of the client's changing needs, may not be simultaneously considering fluidity in the situation 10. continues to build decision-making experience "staff need to think through these spatial issues and need experience from a senior who can help with this" "sometimes the risks are hard to measure, eg mental health issues" but able to modify plans by advising and encouraging change in layout, equipment location by involving client and carers.

Expert	Expert
11. No longer relies on an analytical principle (rule, guideline, maxim) to link an understanding of a clinical situation to a relevant action	11. "know from experience" all the factors relating to a complex plus sized case and the potential lack of resources.
12. Level of accuracy, an intuitive understanding of each situation and has the ability to get to the point of the whole issue directly	11 & 12. consider "expected outcomes, compare cases, draw on previous cases, match ideas.
	12. "no one has defined complexity for the community. (we are) "just aware of it that the situations faced in the community and the cases that are being dealt with are complex by definition of the word complex."
13. Fluidity and flexibility around the understanding of the total situation that is presenting by the client	12. "As experts we have the confidence just to deal with things as they come up." It is sometimes a case of others not being able to "see the wood from the trees."
14. Can be analytical when required if no experience to draw on	13. need to find "innovative ways to deal with this complex case."
	14. "I need to decide and there is not always the precedent for this," "I have the ability to stand back and assess the facts," "I look to specialist staff to assist me in making the right systematic decisions for the client."

Table 7.10: Interview findings from 'Jack participants' about Risk Communication

Job role / Theme	Mixed Work Experience (Novice)	Policy and Procedure role (Competent)	Senior / Team Management role (Expert)
Medical Condition	Changes to Jack's condition should be reported to a line manager or a senior. For two HCPs it is important to **"identify to the senior for them to take any issues to a higher level."**	Jack has a progressive degenerative condition. The HCPs through education and training should be able to pick up cues that show that Jack's condition is changing. **" sometimes the risks are hard to measure, eg mental health issues."** There are key mobility, cognitive, functional, psychological factors that can indicate that change in his condition is taking place. These should be managed by the competent person who can interact with other professional colleagues and ensure that Jack's medical needs are met. This will invariably require a review of all his MHRA needs as they are linked to his medical condition. For a complex case like Jack if a community OT identified that she didn't have the necessary experience then an **"OT specialist may be called in. Specialist in that she has an interest in Manual Handling and knowledge that her colleagues don't have at the same level….this is a situation where her colleagues took the risk assessment so far and then asked for help."**	The senior will be aware of, will intuitively know when the changes around Jack's medical condition should be reported to everyone involved in his care. Routinely it would be usual for the senior to be flexible in the approach that she takes to the case until the facts around Jack's changes are confirmed. Skilled experience and a knowledge of the condition will allow the senior to offer new advice to her colleagues and other professionals and ensure that analytically the changes are managed. For three senior HCPs **" there is now a MHRA format form from which a handling plan is devised with the family and the carers. "** The idea is that this plan will follow the person from the acute to the community setting. Any acute readmissions hopefully will be assisted using this MH information.

Home Environment	Any changes to the house layout can be discussed and a general conversation can take place with Jack **"environment issues are a problem."**	If new AT equipment is being provided then the HCP should be looking to see if the foot print of the product/s will fit into the existing space. Communicating about the equipment and showing Jack pictures or on the internet may assist him in accepting the outcomes of the assessment. **"narrative and photographs are perhaps the best way to deal with this."** Taking him to a place where he can try the equipment without changing his house first of all will potentially engage him in the plans that are being considered for his care. If in the long term Jack's accommodation is not going to be suitable for him with existing or new equipment then a separate discussion may be needed to start talking over housing options. **"Environmental issues in the community present the greatest challenge."**	The Senior will want to ensure that the equipment and the care being offered meet Jack's needs. Once this discussion in line with community care procedures has taken place then the outcomes can be communicated to Jack. Any potential issues with the proposed plans can be talked over with Jack and anyone who is acting as an advocate for his care. Information around changes to his house need to be discussed with the carers before anything is moved. If Jack is being considered for rehousing then the senior will have a role in this decision making process. For five senior OTs involved in communicating their decisions on MHRA cases they believe **"as a group of seniors, we would like to think that we are supportive of our staff."**

Equipment	Potentially identifying if the existing or new equipment still meets Jack's needs. Two HCPs took the view that they would **"check that the equipment is working as hoped and then talk to the carers."**	Where changes to the equipment are planned ensuring that Jack knows what is going on and why staff are trying new equipment based on his assessed needs in the MHRA. **" In the absence of specific IT hardware and software for the community"** one of the Councils use for their MHRA a handwritten triplicate notebook. A current and relevant MHRA copy is kept in the client's house, one is kept in the book and the other is added to the notes.	Taking the details of the MHRA and ensuring that the equipment is meeting both Jack's needs just now and trying to future proof his requirements. It could be asking the competent and the novice to explain how the equipment works, show if it is adjustable or is modular to meet his changing needs. This will mean that the existing equipment is adapted and not changed. Discussing with Jack and the professionals the use of different equipment to see whether there are other options that are needed. This all needs to be clearly noted and documented so that other professionals can read it and deal with the contents of the reports.Several HCPs stated that **" if systems are in place then people can refer to them and different professionals can get involved and write details into the notes."**

Complexity	There will potentially be communication with Jack, carers and family about the MHRA process. The HCP in discussion with a mentor will pass on some of the meaningful components of the assessment to Jack and others involved with his care. Some prior experience of MHRA may be evident from initial training as a way of pointing out how actions from the assessment may be used to plan Jacks moving and handling care. Two HCPs commented that **"Just from speaking to colleagues we build up an understanding of issues and try and deal with them accordingly within our knowledge base. It is a bit of asking here and there and getting on with it."**	This HCP should be able to develop an open and informed conversation with Jack and his carers on actions based on the findings from the MHRA. Long term goals can be communicated and comments, opinions noted as a way of establishing a perspective on his care needs. The HCP will be able to recognise that not all the plans will be realised. **" Assess and note and then work to improve."** It may be a case of taking one thing at a time and communicating why this is the situation. For example, the potential use of a standaid in conjunction with a rise/recline chair to see if this works for Jack. The use of "video/photographic techniques" to capture the assessment. For example **" the photos at Clydebank. The rise recline chair to the standing hoist. "** Implementing the changes and then through the MHRA reviewing and monitoring it should ensure that all the people involved with Jack receive the most relevant and important information. **"Review is subjective. (In reality) there is not a review system in place other than to record the need for a review in a personal diary. We are not aware of a flagging up system for a complex case that needs review ."**	The importance of accurate note keeping and integrated information on Jack is a key part of the work carried out by the expert practitioner. Three senior practitioners noted **"General Practitioners (GPs) are carrying out anticipatory care plans for patients. There are discussions on how Handling Plans and MHRA can feed into these GP plans so that in the event that there is a care crisis with the patients/clients then there is instant access to the relevant handling information. It is all in the development stage."** The data protected clinical records of Jack should allow professionals access to relevant and current details on this client and his changing needs. The ability to note, electronically transfer information and access the clinical details is a desire of the senior who is trying to compile and case manage the complex case. The key handlers noted that **"getting the information out with the person is the important factor."** There are potential operational challenges regarding the IT soft and hardware and how it links organisationally between and amongst agencies. There are reported differences in the communication policies and procedures for the HCPs working in the community. Several senior practitioners commented that the ideal would be if the HCP **"dumped all the details into the IT system and that it sorted it and turned it out in a format that could be used inter agency/professional. It is not there and not sure if it ever will be. A start would be if the systems just spoke to each other.**

			The senior may not be able to monitor and review complex cases as often as is needed. Several senior practitioners noted that in terms of MHRA goal attainment **" once the goal is achieved and the person is at a static situation then the case is closed."** Equally, complex cases once they have been dealt with may be closed. A common view expressed by the senior staff is that **in "closing the case…if you need me, here is how to get hold of me approach. (They believe that this is a) more effective approach."** A referral can always be made to reopen and allocate the case for review.
Community	Communicating any risk assessments with Jack at a basic level three HCPs mentioned that they are asked "Why are you doing this MHRA?" **For Jack " Explain that for the carer to do their job, there needs to be certain bits of equipment in place."**	Helping Jack understand the outcomes from the MHRA and engaging him and other community workers in the decisions. **"talking with their clients from their perspective."** Taking their comments back to the senior for further discussion and review.	Listening to and acting on any comments back from Jack, professionals and carers. Ensuring that any subsequent changes to the MHRA are communicated back to all who have been involved. The senior OT will use the carers and a **"link worker to support and help"** in the liaison with the client, carers and the HCPs.

Table 7.11: Interview findings from 'Jenny participants' about Risk Communication

Job role / Theme	Mixed Work Experience (Novice)	Policy and Procedure role (Competent)	Senior / Team Management role
Medical Condition	**"important not to be overshadowed by the whole condition."** In this situation the HCP will be passing on what others have decided on the plan for managing the client's medical care. For example, the GP, the DN. The HCP will be able to communicate any concerns that the client may have with a more senior and experienced member of staff.	The HCP will be able to assess the client and understand when the best time for the client to be given medication before being moved. This may assist with the person's medical condition eg. pain control and management. A communicated plan of why the medication is being given and the timing of giving this medication is an important part of getting the client moved from a bed to a chair. The carers may be able to do more work with the client if their pain is under control and they are more cooperative. The HCP will understand the medical reasons for administering the medication as well as being able to communicate it verbally and in writing for others to follow. The client and the carers **"are not always thinking of the use of medication"** to control a medical condition before the plus size person is moved.	Ensuring the ethos of community care is working**. "The qualitative bit of quality of care, quality of life."** The senior will take on the challenges of managing a person with comorbidities. The senior person will have had previous experience of such cases and will be able to draw on the clinical and experiential reasoning used to manage other clients. Although each client is different there will be common factors on equipment, presenting factors around the changing needs of the medical conditions. The senior will understand that providing care around known medical conditions is knowing that **"problem solving is one thing and the hands on another with the theory there as well in the overall equation."**

Home Environment	"different levels of experience as you work through things." HCPs at this stage in their career are frequently learning as they go about their work in the community. For three HCPs "a hoist is a daily occurrence now." For these HCPs there is more hoisting being carried out and the "demands on the service has grown as people have stayed at home." The HCP is learning that it is not always straightforward to communicate the environmental changes that are required to allow a hoist to be used as the client doesn't always want the equipment in the house.	For four senior practitioners as competent professionals they believe that when carrying out an assessment on a complex case that it is important to spend the correct amount of time sorting out the issues relating to the client's care. One therapist gave the example that she would "spend 1.50 hours once and come up with a solution than rush and have to repeat the whole business."	One participant noted "… the home is their castle and what goes on is not an institution." It is about knowing and accepting that the person on whom the MHRA is being carried out and who is plus size is living in her own domestic setting. The senior is able to take this view on board, assist the client but also understand, advise and support the needs of the carers who are working in this environment.
Equipment	Looking at existing equipment and building up a profile of the equipment needs of Jenny. What has worked in the past and what is not suitable, size of equipment, SWL etc. For two HCPs, "have to wait and see what comes from the previous case note history on the client."	"OT and DN working jointly and communicating" on a range of issues. Potentially there will be a discussion amongst professionals as to whether "we are putting the client at more risk by providing equipment or whether we should be leaving them alone." For the five HCPs it is about discussing and planning around the fact that the "seniors have noticed an increase in the number of bariatric clients and their complexities."	As a communication aid and as part of the overall assessment process " the equipment is based on the MHRA." is the view of three practitioners. There is the need for the senior to ensure that the care agency dealing with the complex case is well equipped and trained to deliver the service. "The COT do make recommendations to agency as the Local Authority OTs have a duty to provide equipment and all that goes with the duty of care of the equipment." The senior is in a position to monitor the cases in conversation/email/meetings with the practitioners.

Complexity	**"complex is time consuming."** This may be because there is so much to take in and learn as someone new to dealing with plus size people. For a senior OT supported by her colleagues she **"would expect (colleagues) to identify when they are out of their depth. 'Professionally, I need help'** "They should be part of identifying the type of help they need based on their discussions with the client/ other staff.	Two HCPs dealing with a complex plus size person have commented that they are constantly contacted by **"carers seeking support and advice."** There is the need to discuss with the client and the carers the aims of long term care. Potentially there is a one step at a time approach. Equally if the client or the carers are communicating a problem, a new or a change to an existing hazard which has a risk associated with it then the HCPs as highlighted by the two practitioners may have an **"intense involvement on a daily basis perhaps having to deal with a lot of issues and potentially resolving a lot of problems associated with the person needing help."** Changes should be communicated with all the relevant care and professional staff who are involved with the client.	**"communication takes time and it is the time element that is sometimes missing"** The senior is aware that colleagues need knowledge and education along with suitable training. **"People (HCPs) are working and (clients) are living in the community more and more."** It is factual that cases are becoming more complex. The expert will consider a range of options to train staff and communicate the MH practices needed to deal with a complex plus size person. Two seniors agreed that the **"case study approach is best."** They believe that as a communication aid that **"…case studies are very useful and they provide an excellent way of getting across relevant manual handling data in a practical way."**

Community	Going into the client's house and taking notes on what issues are there and then communicating these problems to a senior. Several seniors noted that they **"find out the complexity (of the case) when they meet with the OT staff at support and supervision. They have hit a problem and need an input from the senior."** The seniors can also arrange with the HCP at this level when it is a manual handling risk assessment issue that to help communicate the correct way to do a move then a **"key handler can go through filling out the MHRA with their team member colleague."**	The HCP realises the importance of communicating to colleagues and carers as well as the family the challenges that are faced when working in the community. Invariably it is working at a compromise of the views and opinions of a range of people all within a community setting. For three senior HCPs it is about **"the participants having knowledge of the organisational systems but having to find ways of informing and assisting colleagues in the work that they do."**	MH in the community is very often delivered by carers. The senior needs to be aware of the education, training and knowledge of the carers. For the senior it is about **"looking at the long term options for the client."** This could be the type of housing that is needed to meet the client's long term needs in a community setting. The MHRA **"for a complex case can assist in discussions"** around a range of inter related care options. The various groups interviewed commented on the need to use more advanced methods of IT communication in the community. The senior has to bring together multiple strands involving the care of a complex case. Perhaps if the data could be captured on a laptop/tablet then administratively and from a communication point then **"common statements which are much easier to build up a structure of reporting"** could be part of the MHRA with the appropriate sections being put in the handling plan.

Table 7.12: Summary of How Interview Data on Risk Communication was Coded to Generate Level Descriptors

Benner's Stages and Descriptors	Stages of Clinical Reasoning in MHRA in Community Settings and Descriptors with Supporting Quotes
Novice 1. Taught general rules to help perform tasks 2. Rule-governed behaviour is limited and inflexible "Tell me what I need to do and I'll do it" Advanced Beginner 3. Pays close attention to the practice of colleagues 4. Experiences the situation as a myriad of competing tasks 5. May experience worry and anxiety over not knowing how to prioritize tasks	Novice 2. follows existing communication processes "have to wait and see what comes from the previous case note history on the client." 3. relies on more experienced colleagues to communicate the correct way to do a move then a "key handler can go through filling out the MHRA with their team member colleague." -when changes to medical condition or other factors, "identify to the senior for them to take any issues to a higher level." 4. "Explain that for the carer to do their job, there needs to be certain bits of equipment in place."
Competent 6. Able to prioritize information based on past experiences 7. Aware of long term goals in patient care and needs Proficient 8. Perceives and understands situations as whole parts 9. More holistic understanding improves decision making 10. Continues to build experience but knows what to expect in certain situations and how to modify plans	Competent 7. communicates with patient "talking with their clients from their perspective" as well as carers / family members to gain compliance using different formats "narrative and photographs are perhaps the best way to deal with this" to achieve goals 8. "OT and DN working jointly and communicating" on a range of issues. 8. aware of technological "In the absence of specific IT hardware and software for the community" and procedural / system limitations to communication for community care "Review is subjective. (In reality) there is not a review system in place other than to record the need for a review in a personal diary. We are not aware of a flagging up system for a complex case that needs review " "having knowledge of the organisational systems but having to find ways of informing and assisting colleagues in the work that they do," "Assess and note and then work to improve."

Expert	Expert
11. No longer relies on an analytical principle (rule, guideline, maxim) to link an understanding of a clinical situation to a relevant action 12. Level of accuracy, an intuitive understanding of each situation and has the ability to get to the point of the whole issue directly 13. Fluidity and flexibility around the understanding of the total situation that is presenting by the client 14. Can be analytical when required if no experience to draw on	12. intuitive understanding of communication systems and situations "communication takes time and it is the time element that is sometimes missing" 13. takes a flexible approach to communication systems limitations "there is now a MHRA format form from which a handling plan is devised with the family and the carers" The idea is that this plan will follow the person from the acute to the community setting. Any acute readmissions hopefully will be assisted using this MH information. the ideal would be if the HCP 14. can establish protocols to communicate with multiple agencies when no established protocols "dumped all the details into the IT system and that it sorted it and turned it out in a format that could be used inter agency/professional. It is not there and not sure if it ever will be. A start would be if the systems just spoke to each other from the different agencies."

Key:

Novice	**Taught general rules in clinical practice**
Competent	**Prioritises details in clinical environments by experience**
Expert	**Intuitive understanding of clinical situations**