Using the International Classification of Functioning, Disability and Health (ICF) to promote biopsychosocial clinical reasoning and person-centred practice (PCP) in two multi-disciplinary teams.

A thesis submitted for the degree of Doctor of Philosophy

by

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Abstract

Title: Using the International Classification of Functioning, Disability and Health (ICF) to promote biopsychosocial clinical reasoning and person-centred practice (PCP) in two multi-disciplinary teams.

Background: The ICF has been advocated as a way to enhance the biopsychosocial analysis of functioning and as a vehicle for implementing PCP. PCP has been recommended as a model to address contemporary healthcare needs. This action research study has identified factors required to facilitate biopsychosocial clinical reasoning and promote PCP through the implementation of the ICF.

Setting and aims: Two multi-disciplinary teams, with different contexts, cultures and characteristics, participated in this study. One was community-based, included all members within the study group and sought to promote biopsychosocial multi-disciplinary clinical reasoning. The other was unit- based, utilised a sub-group of research participants and required a clinical reasoning model that embraced all disciplines and enhanced PCP.

Methods: Data were generated through the use of iterative action research cycles which employed a variety of qualitative and quantitative methods. Findings were analysed through immersion and thematic analysis and descriptive statistics. Key findings were drawn from across all the data sources.

Findings: Through the process of developing and implementing ICF-based clinical reasoning tools six themes emerged. The need for: a shared team culture aligned to that of the organisation; a resilient and innovative team culture and; the adaptation of the ICF to the context of practice reflecting the patients', teams' and organisational needs and capabilities. When present, these led to: enhanced communication and reasoning between team members and with patients; a greater awareness of the biopsychosocial needs of individuals and; enriched PCP.

Conclusions: This thesis makes an original contribution about the prerequisites, contextual conditions, modifications and developments required to implement the ICF to promote biopsychosocial clinical reasoning and PCP.

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List of abbreviations.

ABI: Acquired Brain Injury
AHP: Allied Health Professional
BPS: Biopsychosocial.
ESDT: Early Supported Discharge team
HCA: Health Care Assistant
ICF: International Classification of Functioning, Disability and Health
LBP: Lower Back Pain
MDT: Multi-disciplinary Team
NHS: National Health Service
PCP: Person Centred Practice
PF: Personal Factors
RA: Rehabilitation Assistant
SCI: Spinal Cord Injury
SCT: Social Cognitive Theory
SDH: Social Determinates of Health
SLT: Speech and Language Therapist
TBI: Traumatic Brain Injury

Selected presentations:

- 2015 Presented at the International Collaborative Action Research Network Conference, Braga, Portugal.

Invited presentations:

- Presented at various work-shops/ lectures on subjects associated to the study including: goal setting (one day workshop); clinical reasoning (neurology team RLH); influence of personal factors in rehabilitation (half day workshop MSc neurological rehabilitation programme Brunel University) and; Acquired Brain Injury and biopsychosocial rehabilitation (half day undergraduate OT students, London South Bank University).
- Presented to the Brunel PhD research conferences- 2016 awarded 3rd place for oral presentation.

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I dedicate this thesis to Mum and Dad. I hope it doesn’t disappoint.

Chapter 1: Introduction.

1.1 Background of the study.

This study took place within two multi-disciplinary rehabilitation teams based in a community rehabilitation service. The original interest in exploring the use of the International Classification of Functioning, Disability and Health (ICF) in practice came from a recognition of its use as a 'common language' across disciplines (Cerniauskaite et al, 2011). In 2008 a number of clinicians throughout the community service had observed a weakness in multi-disciplinary working and in informal discussions with staff a shared desire to investigate potential solutions. This interest in the clinical utility of the framework was further fuelled by the knowledge of its recommendation by several professional bodies and organisations (College of Occupational Therapists, 2004; World Confederation for Physical Therapy, 2009; Royal College of Speech and Language Therapy, 2006; National Institute for Health and Clinical Excellence, 2003; Intercollegiate Stroke Working Party, 2004). Following discussions with a researcher action research was adopted to examine the use and process of introducing the ICF into clinical practice (see 3.6)

1.2 The ICF: a brief overview.

The World Health Organisation (WHO) endorsed the ICF in May 2001 following nearly a decade long development process. The ICF is based on the biopsychosocial (BPS) model of health and attempts to synthesis the medical and social models of disability. The WHO states that the 'ICF is based on an integration of these two opposing models... in order to provide a coherent view of different perspectives of health from a biological, individual and social perspective' (WHO ICF, 2001 p20).

The aims of the framework are as follows:

- to provide a scientific basis for understanding and studying health and health-related states, outcomes and determinants;
- to establish a common language for describing health and health-related states in order to improve communication between different users, such as health care workers, researchers, policy-makers and the public, including people with disabilities;

- to permit comparison of data across countries, health care disciplines, services and time;
- to provide a systematic coding scheme for health information systems (WHO ICF, 2001).

The proposed applications of the ICF are:

- as a statistical tool – in the collection and recording of data (e.g. in population studies and surveys or management information systems);
- as a research tool – to measure outcomes, quality of life or environmental factors;
- as a clinical tool – in needs assessment, matching treatments with specific conditions, vocational assessment, rehabilitation and outcome evaluation;
- as a social policy tool – in social security planning, compensation systems and policy design and implementation;
- as an educational tool – in curriculum design and to raise awareness and undertake social action (WHO ICF, 2001).

This brief description is provided so that the reader can begin to understand the ICF in the initial stages of the document. For a more in-depth description and analysis of the framework see 2.3. The following diagram illustrates the inter-relationship between the components of the framework (see figure 1.1).

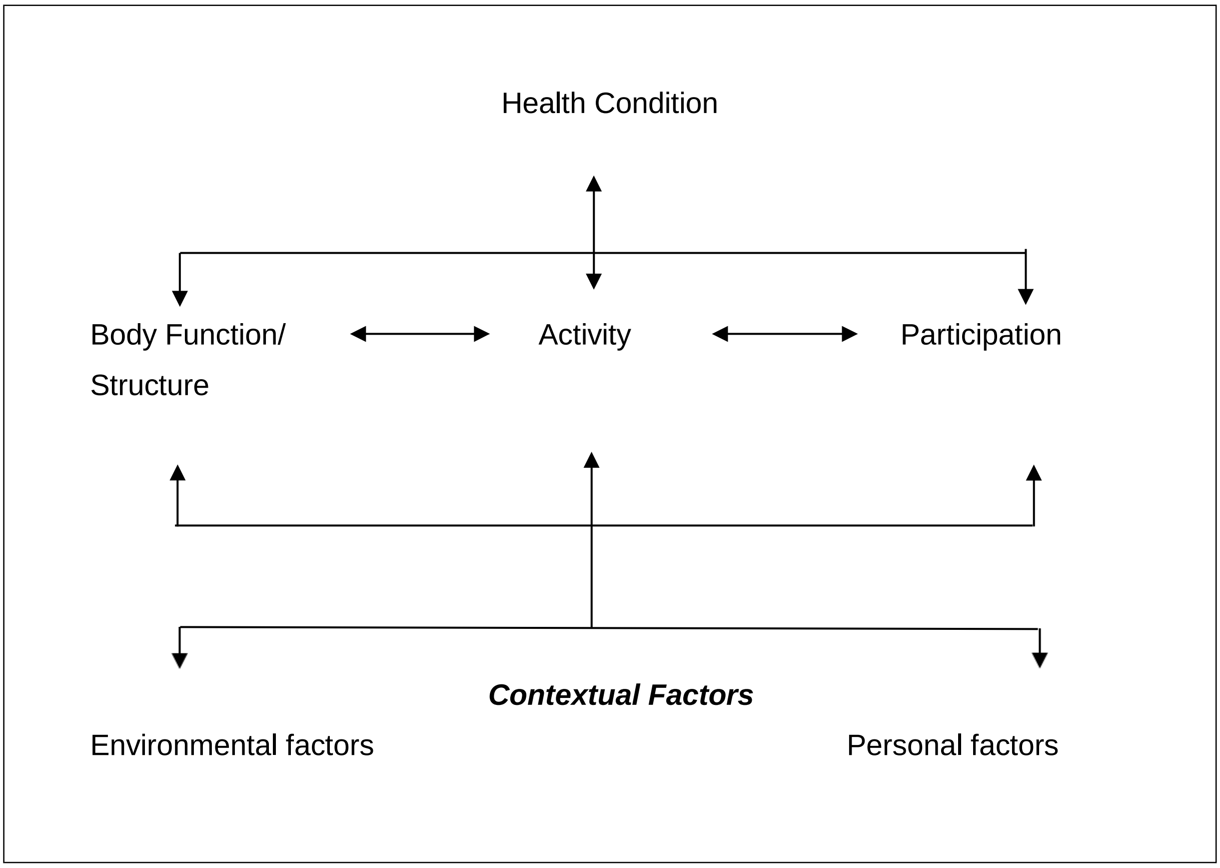


Figure 1.1 The framework of the ICF (WHO, 2001)

1.3 The original problem and question.

The genesis for the study was a desire to strengthen communication and working within a community service. The practice and context across the eight teams (within the service) varied significantly and therefore the original question reflected this variation by being non-specific although was a response to a common problem of inconsistent and ineffective communication within the multi-disciplinary teams. The original question that instigated the study was; 'Can the ICF be introduced and used in practice to strengthen multi-disciplinary working?'

1.4 The duration of the study.

Prior to the commencement of the study scoping exercises were carried out (open to clinicians from all of the trust's teams). These took place between July and September, 2009 to identify the range and focus of the study. The exploration phase of the study started with both teams in January, 2010. The evaluation phase finished with the neurology team in December, 2012 and the inpatient team in April, 2013. Follow up interviews with participant from both teams took place in 2013 (see 3.3 for a full description of the setting of the study).

1.5 Locating the research within contemporary healthcare and rehabilitation.

The remainder of this chapter will contextualise the study within the contemporary healthcare delivery, contextual and organisational milieu. This has been included to provide an essence for the reader of the broader context in which the research took place and reflects Ryecroft-Malone's (2004) assertion that healthcare change is multi-factorial and influenced by contextual factors. The background to the key topics will be critically reviewed in Chapter 2. The specific setting of the study will be outlined in the Chapter 3.

1.6 Healthcare Delivery: The Social Determinants of Health (SDH): an overview of significance and measurement.

This section will briefly illustrate the significance of the SDH and the difficulties associated with measuring their impact and intervening on an individual basis.

1.6.1 SDH: an historical overview.

The relationship between an individual's context and their health has long been assumed, although not fully understood (Krieger, 2001).
Krieger (2001) defined the SDH as both features of and pathways by which societal conditions affect health including income, education, occupation, discrimination, and working/living conditions.

Rene' Sand (one of the WHO founders) considered health as being primarily shaped by social conditions (Sand, 1935) and defined it (within the WHO constitution) as a state of complete physical, mental and social well-being (WHO 1948).

This early championing of the SDH suggests that a WHO schema (describing health) would include contextual factors within less than a quarter of a century. It has been proposed that this did not occur due to political and economic barriers (Irwin and Scali, 2007). Additionally, the dominance of the medical profession may also have affected the advancement of the SDH. Freidson (1970) argued that medical insistence on the objective existence of disease prevented an acknowledgement of the social nature of illness. More recently Beagan (2000) concluded that socio-demographic variables are seen as largely irrelevant to physician - patient interactions.

In summary, recognition of the SDH is widespread although not universally adopted due to a variety of political and economic factors. This may account for the ongoing prevalence of the bio-medical model within healthcare.

1.6.2 Environmental factors.

This section will briefly illustrate the influence of the environment on health. To reflect the ICF nomenclature it will be divided into physical, social and attitudinal factors, although these categories are not mutually exclusive.

1.6.2.1 Physical factors.

There are many environmental factors attributed to health. In their systematic review of the built environment and health Renalds and colleagues (2010) concluded that the built environment can be considered a foundation for health and wellness. They found that neighbourhoods characterised as more walkable were associated with greater physical activity, increased social capital, reduced obesity, lower reports of depression and less reported alcohol abuse. In an associated study exploring the influence of nature and daylight on health Beute and de Kort (2013) found a positive effect on stress, mood and executive functioning and self-regulation. These studies suggest that an individual’s environment can have a significant influence on health across the BPS range.

From the perspective of disabilities, evidence from studies indicate that people with long-term health conditions and disabilities access community resources less frequently, due to a multitude of BPS factors (Wise et al., 2010).

These findings suggest that the physical environment can significantly influence health in the non-disabled population and that accessing favourable environmental conditions can be particularly difficult for those with disabilities. This implies that addressing access to positive environments is within in the remit of BSP rehabilitation.

1.6.2.2 Social factors.

The health risks associated with social isolation have been compared in magnitude to the dangers of smoking cigarettes and obesity (House 2001). Individuals who lack social connections or report frequent feelings of loneliness tend to suffer higher rates of depression (Heikkinen and Kauppinen 2004) and cognitive decline (Barnes, 2004).

Specifically, friendship and diverse social networks have been associated with resistance to illness and a reduction in mortality (Pahl, 2005; Brunner, 1997). Uchino (2006) reviewed the evidence around health and social support, noting that it is indicated in changes in cardiovascular, neuroendocrine, and immune functions.

When considering the social environment and disability a number of issues emerge. Shakespeare (2014) reflected on the relationship between disabilities and friendship concluding that people with disabilities experience both significantly greater isolation and loneliness and have less diverse social networks. Studies specifically investigating the relationship between perceived social support and disabilities have found positive associations between support in areas such as coping (Stuifbergen, Brown and Phillips, 2009) and health related quality of life (Kruithof et al., 2012).

Reviews into the effect of employment and health have concluded that there is medical and epidemiological evidence to show that unemployment is detrimental to health, due to poorer financial resources and adverse psychological effects (Cooper, McCausland and Theodossiou, 2015). Jones and Wass (2015) noted the under representation of disabled people in employment in the United Kingdom (UK). Minis and colleagues (2009) used the ICF to classify factors influencing return to work for people with neuromuscular diseases. They identified ten factors associated with employment status, including disease, functional, general personal and work related personal factors. The authors noted that general and work related personal factor such as, terms of employment and task content are not present in the ICF and therefore coding (within the ICF) was not possible.

These findings indicate that disabled people experience significantly higher levels of social isolation and unemployment with detrimental effects on health, due to a complex interplay between varieties of BPS factors that are both disease and context specific.

The ICF has been used to examine the BPS factors influencing employment, although in its current form does not include all pertinent areas.

1.6.2.3 Attitudinal factors.

‘The attitudinal environment in which people live and conduct their lives’ (WHO, 2001 p17) covers a multitude of issues ranging from customs, ideologies, values, norms, factual and religious beliefs (WHO, 2001 p190). Discrimination is one observable consequence of these factors (Shakespeare, 2014).

Shakespeare, Gillespie-Sells and Davies (1996) described feelings of being worthless and unattractive resulting in anger, self-loathing, and daily experiences of rejection and humiliation as amongst the hardest aspects of being a disabled person. The extent to which rehabilitation can address these issues is little known, although psychosocial interventions focusing on supporting individuals to reconstruct a sense of self following TBI (Ylvisaker, McPherson and Kayes, 2008) suggest that this is within the remit of rehabilitation.

1.6.2.4 Environmental factors: summary.

The evidence illustrates both the power and complexity of the environmental determinants of health and that disabled people are disproportionately excluded from positive environmental conditions. Whilst some factors such as housing have a direct influence others such as discrimination are more indirect in their effect, with a nuanced and individual interplay with other contextual factors. This intricacy in both measurement and attribution e.g. the effect on a specific individual, would make focusing on environmental factors, especially those with indirect mechanisms a challenging decision for clinicians. However, not incorporating these factors within rehabilitation would be to the detriment of the individual’s health and undermine the BPS principles of the ICF.

1.6.3 Personal factors.

A number of personal factors have been suggested to influence health (WHO, 2001). As there are no specific ICF classifications the evidence will cover those areas suggested by Muller and Geyh, (2014): positive psychology; demographic factors and; lifestyle. These are not mutually exclusive.

Positive psychology has been defined as those factors which allow individuals, communities and societies to flourish (Seligman and Csikszentmihalyi, 2000). Positive emotions associated with improved health include: optimism (Carver, Scheier and Segerstrom, 2010); life satisfaction, mastery, vigor, social interest and social cheerfulness (Fadda, Scalas and Meleddu, 2015); occupational prestige (Fujishiro, Xu and Gong, 2010); locus of control (Gruber-Baldini et al., 2009) and; laughter and humour (Lebowitz et al., 2011). These emotional elements have been linked to the behavioural consequences of self-efficacy (Sinnakaruppan et al., 2010) and psychological adaptation (Ong and Bergeman, 2006).

These studies illustrate the influence of 'positive psychology' on the health of 'non-disabled' individuals. Positive psychology can often elude those with disabilities and chronic health conditions. Studies investigating the links between these factors and health (and health behaviours) have discovered associations between self-efficacy and: returning to work for individuals with pain (Richard, Dionne and Nouwen, 2011); adjustment to colostomy (Simmons et al., 2007) and fibromyalgia (Sahar et al., 2016).

Carver and associates (2010) discovered that pessimistic women being treated for breast cancer were more likely to withdraw from their social activities than were more optimistic women. Optimism was also considered a positive ingredient in the relationships between perception of control, self-efficacy and hopelessness in people with Multiple Sclerosis (Sinnakaruppan et al., 2010) as well as satisfactory quality of life, emotional distress and disease severity in those with Parkinson's Disease (Gison et al., 2014). Rizza et al., (2015) discovered that an external locus of control was negatively associated with health-related quality of life as well as positively associated with emotional distress and disease severity, in people with Parkinson's disease, whereas internal locus of control was negatively associated with depression.

These studies illustrate an interdependency between psychological notions such as, self-efficacy, locus of control, optimism and quality of life. Whilst their conclusions indicate the potentially positive influences of these factors they do suggest that the relationship between them is complex, unpredictable and difficult to influence.

Chronic illness and disability is often exacerbated by an individual's socio-economic circumstances which further restricts lifestyle. A combination of functional, economic, personal and environmental factors can result in a 'vicious circle' whereby an individual’s health is further compromised by limited participation (Perrier et al., 2015). This suggests that rehabilitative interventions designed to arrest this process would need to address individually tailored issues (across the BPS range) such as disease specific deficits and particular contextual factors such as social networks and financial resources.

These conclusions provide a complex picture of how the demographic aspects of an individual can influence both directly and indirectly health and health behaviours. These effects are mediated by attributes such as an individual’s characteristics, available resources and the types of intervention or behaviour in question. This unpredictability demands a depth of awareness on the part of a clinician wishing to understand and intervene on the personal level, as s/he needs to be cognisant of the countless associations at play.

Analogous to the environment, personal factors are both influential and occasionally paradoxical in their relationship to health. Because of the unique interplay of BPS influences operating on an individual, the extent to which these factors can be anticipated and changed by focused intervention, is difficult to predict.

1.6.4 Summary of the influence of SDH on rehabilitation.

The findings indicate that the SDH have a profound influence on health and that those with disabilities are exposed to more disadvantageous contexts. This would indicate that rehabilitation, based on the BPS model needs to address these factors. The difficulty is that this would require an awareness of complex interwoven associations that are not only contextual but ultimately associated with all BPS factors. Therefore the delivery of interventions that address the SDH would require significant development in the culture, knowledge, tools and practice of rehabilitation.

1.7 Healthcare Context: The National Health Service: development, structure and culture.

The context of the study influenced the participants’ decision making and actions. To better understand some of the organisational and cultural issues impacting on the teams, a brief examination of contemporary changes within the National Health Service (NHS) is required.

1.7.1 The development and structure of the NHS.

The NHS was created in 1948. Its aim was to make comprehensive healthcare universally available to all and free at the point of delivery (Tailby, 2012). The funding mechanisms led to direct governmental responsibility for the organisation (Carvel, 2005), resulting in a need to centralise and tighten control to the extent of creating a ‘hyper- interventionist’ style of micromanagement’ (Walshe, 2003 p 108) wish led to a sense of ‘continuous revolution’ (Tailby, 2012). This perception of persistent control and change has influenced the relationship between clinicians and their sense of autonomy as will be examined in the next section.

1.7.2 Management approach.

At its inception the NHS ensured the medical profession’s autonomy through high levels of self-determination (Freidson, 1970) ensuring clinical freedom in decision making about a patient’s treatment (Bradby, 2012). In the 1980’s general managers were introduced signalling the beginning of the management approach as the preferred means of controlling the cost of healthcare for government (Tailby, 2012). Gorsky (2013) suggested that this marked the start of the new dominant trend, of a ‘shifting frontier’ of power away from the doctors and towards managers, who increasingly functioned as ‘agents of the state’.

Bradby (2012) concluded that the speed with which NHS management has changed and redefined its goals and techniques, and the quickening tempo of structural reorganisation has provoked cynicism among healthcare staff who complain of constant revolution in the NHS for the last 40 years, resulting in management and staff ‘reform fatigue’ (Pollitt, 2007). Both structurally and culturally reform has altered the NHS as a place in which to practice medicine. (Bradby, 2012).

These findings indicate a culture in which frontline clinicians are exposed to changes that are imposed centrally with limited awareness of the unique context of practice. The next section will consider the effect of these changes on the workforce specifically focusing on scrutiny, autonomy, response to change and working conditions of NHS staff.

1.7.3 Change, targets and autonomy.

Bevan and Hood (2006) described the NHS as a place of ‘targets and terror’, which had created an adverse environment for the staff (p.419). Andrew Lansley (when Secretary of State for Health) felt that targets had made the most contribution to NHS performance improvement, although noted that the cost may have been to the quality of the working lives of managers and staff (Tailby, 2012). Allcock et al. (2015) suggested that this often leads to ‘fire-fighting’ whereby pressure from the centre on targets means they are often prioritised over local ambitions to improve and change services.

Tailby (2012) noted a strong cultural resistance to the use of targets by NHS staff as they were associated with a reduction in the quality of care and loss of clinicians’ autonomy. House (2012) stated that ‘the ideology of uniformity and standardisation (in the NHS) is incommensurable with pluralistic diversity and innovative therapy practice’ (p.53). He suggested these developments represent a critical shift in the locus of power away from the professional autonomy of practitioners themselves, and towards managerial imperatives and administrative bureaucratic interests.

Vickers (2006) in her paper on public sector workers commented on the effect of targets in increasing workloads. Specific to the NHS the Lancet (2015) highlighted massively increased workloads while Worrall and Cooper (2004) noted that public sector workers are being put under pressure to work harder and longer in working environments that are increasingly perceived as autocratic with declining reciprocal trust.

Contrastingly, Allcock and colleagues (2015) outlined the optimum conditions for promoting change within the NHS and concluded that these should include (amongst others): committed and respected leadership that engages staff; a culture hospitable to, and supportive of change; creating the headspace to make change happen and; creating an environment in which there is sufficient motivation to change.

A number of studies have explored the relationship between changes in the working conditions within the NHS and staff morale (Hashmat et al., 2015; Iacobucci, 2015; Limb, 2012; Jones-Berry, 2013) covering issues as diverse as workloads, bullying, austerity, leadership and blame. These reports primarily described the effects on medical and nursing staff. There are a paucity of studies directly relating to morale and allied health professionals (AHPs), although Copnell (2010) concluded that the changes risk undermining the disciplines autonomy through increased regulation and organisational and consumer command. Loan-Clarke and colleagues (2010) investigated retention of AHP's within the NHS and concluded that the top ranked items for leaving (and not returning) were: excessive workloads, pressure and stress; not being able to give good patient care; poor management and; feeling personally undervalued.

Collectively these assertions describe working conditions that are disempowering, culturally incompatible with those of many staff and ultimately not conducive to either morale, effective change or retention of staff.

1.7.4 Summary of the healthcare context.

In summary the dissonance between the staff and senior NHS management as to the desired culture, outcomes, structure, management and autonomy within the service has led to a deterioration in the working conditions and morale of staff. Whilst, there has always been friction between staff and those managing the NHS, the cultural differences appear to be widening.

The participants' response to the organisational culture in which the study took place influenced both their decisions and actions and will be examined in Chapters 3 and 4.

1.8 Healthcare Organisation: Teams and team working.

A significant contextual element of the study was the team. An objective of this study was, 'to evaluate the ICF's introduction on multi-disciplinary team (MDT) clinical reasoning', therefore the working of both MDT's is central to this exploration.

This section will consider a number of salient issues associated with the nature of teams and team working.

1.8.1 Communication between clinicians and patients.

An often neglected component of MDT communication is with the patient (Whalley Hammell, 2007). There is increasing evidence that communication between clinicians and patients proves beneficial to rehabilitation outcomes, although the active mechanisms of this communication are not fully known (Jesus and Silva, 2016). Therefore it is not communication *per se* that is the issue - more the nature of the interaction. The same authors carried out a systematic review of communication in rehabilitation to investigate potential mechanisms. They discovered four types of communication that led to enhanced outcomes that they characterised as: collaborative; educational; supportive and; shared. They suggested that practicing these methods of communication results in the clinician: knowing and building a more supportive relationship with the individual; being more effective in exchanging information and providing education; being able to jointly plan actions and: enabling realistic outcomes through positive self-framing. From the patients' perspective Oliveira and colleagues (2012) concluded that the communication approaches which value patients' autonomy are closely associated with satisfaction of care.

An additional communicative relationship is that between different MDT members. It has been recognised that successful rehabilitation involves a MDT and that effective communication within MDT is central to their success (Powell and Hohenhaus, 2006).

These findings would suggest that not only do clinicians need to possess extensive and sophisticated communication skills but they also need to work in an environment which provides the culture, tools, structure and time to encourage these practices. The next section will explore one such environment: the multi-disciplinary team.

1.8.2 Roles, philosophy and respect.

One fundamental aspect of team working is the recognition of the roles within the team (Power, 2008). Poor role recognition within teams can lead to confusion, discord and duplication within teams affecting relationships both within the team and between team and patient, ultimately effecting communication and outcomes (Swetenham et al., 2011). Several studies have explored this issue and recommended potential solutions including the need to recognise, value and feel more confident in understanding and communicating roles (Long et al. 2002, Tempest and McIntyre 2006). As Ruhstaller and colleagues (2006) observed, cooperation and collaboration is greater when each discipline understands the roles, possibilities and limitations of the other ones, allowing a trusting relationship to be developed between specialities. Contrastingly, O'Connor and Fisher's (2011) social constructivist study of a palliative care team revealed some of the undercurrents within MDT's. They discovered frictions around lack of clear role boundaries and strategies for maintenance of role boundaries which included: claiming access to specialist expertise and knowledge and; minimizing the knowledge of other professions and professionals. These findings would suggest that an aspect of the communication within the team focused on undermining or contesting the role of other disciplines. The contested space appeared to concentrate on the psychosocial aspect of care, possibly reflecting its poor definition and boundaries resulting in disputed ‘ownership’ and ultimately reduced trust.

Trust also emerged as a significant mechanism leading to effective team working following Jones and Jones (2011) ethnographic study of an interprofessional team working on a medical rehabilitation ward for older people. The participants linked trust with the frequency of meeting and the growing awareness that other team members could be relied on to carry out agreed actions. Interestingly, the authors acknowledged the emotional aspect of trust, suggesting it was negotiated, co-constructed and contextually specific and associated with feelings of friendship, ultimately leading to a ‘good team’ (Jones and Jones, 2011). These finding suggest that effective team work and communication is built upon the foundations of recognition, trust and respect. As Jones and Jones (2011) noted these cannot occur via a managerial diktat but are deep interpersonal issues built over time and proximity.

Different disciplines within the MDT adhere to distinctive theories and philosophies reflecting the origin of their profession. Sheehan, Robertson, & Ormond (2005) in their study of the differences in clinical reasoning within a MDT discovered that philosophical differences were not defined solely by discipline but also by the personal viewpoint of the individual clinician. Therefore within a MDT there maybe a number of conflicting or complimentary views. This potential dichotomy between conflict and compliment is central when considering the MDT from a biopsychosocial (BPS) stance. If all MDT members concentrate on one aspect e.g. body function and structure, to the detriment of participation and context then the intervention cannot be considered BPS (Conti-Becker, 2009) and may in reality lead to duplication and conflict (O’Connor and Fisher, 2011). Whereas if different members consider a patient from varied standpoints across the BPS spectrum then this ‘holistic’ approach can presumably ensure an enhanced PCP approach to care.

Jones and Jones (2011) associated successful team working with the importance of team meetings and participative safety, the role of shared objectives and value of autonomy within the team. These findings suggest that good teamwork is not only built on inter-personal relationships but also robust organisation and structures.

1.8.3 Team organisation, structure and processes.

A key vehicle of team working is the MDT meeting. These occasions are often the only protected time for formal team working activities and are associated with improved outcomes and greater innovation (Borrill et al., 2000) in areas such as neuro-oncology (Field et al., 2010), palliative care (Ruhstaller et al., 2006), rheumatology (Verhoef et al., 2005), Alzheimer's disease (Bokhour, 2006) and stroke rehabilitation (Tyson, Burton and McGovern, 2014). Themes which emerged from these investigations included: the need for structure to the meetings; the use of specific tools and documentation to enhance role definition and communication; for regular and sufficient protected time; for effective leadership and conflict resolution; for a democratic climate allowing for open and constructive discussion and; for consistent team size, composition and diversity.

Successful team working is also linked to location. Clarke (2010) proposed that if MDT members are in close proximity then opportunistic dialogue occurs, whereas those teams that are more dispersed are denied the opportunity for deeper relationship building. He concluded that opportunistic dialoguing contributed to mutual learning and explained the shift in thinking and team culture as members moved from concern with discrete disciplinary actions to dialogue and negotiations focused on meeting patients' needs (Clarke, 2010). Conversely, remoteness either by location or frequency of joint working, is associated with less perceived support and poor integration (Swetenham et al., 2011). These results suggest that one set of mechanisms that generate the foundations of a 'good' team i.e. recognition and respect are located in the frequency of meeting and intimacy of practice.

1.8.4 Summary of the organisational context.

These findings indicate that the organisation and processes surrounding clinicians significantly impact on team working. They suggest that effective team working is more complex than the organisation of a weekly meeting, accumulation of team members and tools to direct and capture decision making and is as much grounded in a deep inter-relationship of understanding, trust, courage and respect. The more discrete, measurable aspects of team working such as teams composition, frequency of meetings and keep record keeping are now included as quality markers (Royal College of Physicians, 2008), whereas features associated with strengthening relationships such as joint working remain absent.

In relation to the study the participating teams' engagement, communication and resulting culture impacted on their decision making, actions and outcomes of the study. These findings will be revealed in Chapters 3 and 4.

1.9 Chapter summary.

This chapter has contextualised the thesis through a description of the motivation for the study and broader context under which the study was undertaken. The contextual aspects expose the tensions in the current policy, political and organisational environment in which the study was carried out. These have been included to provide the reader with an overview of the issues that influenced the participants' decision making and actions. The resultant findings will be examined in Chapters 3 and 4.

1.10 Overview of the thesis.

This thesis comprises of 6 chapters. This chapter has briefly described the broader context under which the study took place, in order to assist the reader to evaluate the findings and due to the significance of the context over the introduction of the ICF. Chapter 2 will critically explore issues relating to the ICF, the biopsychosocial (BPS) model and person-centred practice (PCP). Chapter 3 outlines the research question, corresponding aim and objectives and context of the study. It then discusses the selection of the research methodology and the ethics, ethical processes and requirements to ensure the quality of action research**.** The first part of Chapter 4 will present a synthesis of the action cycles that are pertinent to the study's outcomes. It will then consider the general evaluation data generated from the process of immersion and thematic analysis that followed the conclusion of the action phases. Chapter 5 integrates the findings through the application of a PCP model (McCormack and McCance, 2017). The final chapter (6) will draw together general conclusions from the research, describe contributions to new knowledge and reflect on the research process and issues of reflexivity. It will conclude by discussing implications for future research and practice.

Chapter 2: Background to key topics.

2.1 Introduction and search strategies.

A variety of resources were used to gather the relevant literature for this chapter. These included electronic databases accessed through Brunel University and the College of Occupational Therapists. Additional sources were used including: Google and Google scholar, online archives such as the WHO, the Health Foundation; the Department of Health and, Goldsmith's (University of London) book library. Reference lists from all the articles and books were also scrutinised for additional sources.

Due to the scarcity of empirical studies examining the application of the BPS model or ICF framework in rehabilitation the search strategies were based around a number of questions and cited evidence at the levels of opinion and interpretation. The questions were:

- What are the underlying theories and principles of the BPS?
- How did the BPS model develop?
- How has the BPS been applied in healthcare and rehabilitation?
- What are the underlying theories and principles of the ICF?
- How did the ICF framework develop and what is its recommended scope?
- How has the ICF been applied in healthcare and rehabilitation?

The strategy employed for examining PCP differs due to the larger body of knowledge, and will be described in 2.4.3.

2.2 The biopsychosocial model.

To better understand the historical and theoretical basis for the development of the ICF, its underpinning philosophy the biopsychosocial (BPS) model of health requires further consideration. This section will initially describe the emergence and theoretical basis of the BPS. It will then outline the development, clinical application and perceived shortcomings of the BPS within general healthcare and then focus specifically on evolving models within rehabilitation. Many of the issues pertinent to the BPS anticipate those of the ICF because of their shared theoretical basis and the length of time the BPS has been in existence. By investigating the (significant) data associated with the theory development and critiques of the BPS, the nature of the ICF can be better understood.

2.2.1 The emergence of BPS: an historical perspective.

The ICF’s theoretical basis is derived from the BPS model of health. The BPS was developed as a response to the limitations associated with biomedicine e.g. its dualistic nature, reductionism and value placed on objectivity over subjectivity (Engel, 1977). Engel argued that ‘the crisis’ in medicine stemmed from the logical inference that since ‘disease’ is defined in terms of somatic parameters physicians need not be concerned with psychosocial issues which lie outside their responsibility and authority’ (Engel, 1977 p130). He was commenting as a psychiatrist although postulated that the existential crisis was as pertinent to physical medicine as mental health. The author’s frustration with the orthodoxy of the biomedical model was not without precedent as educators as far back as 1920 had advocated a more holistic approach to medical education (Engel, 1977).

Engel suggested that (in the 1970’s) the biomedical model was dominant and that it was not sufficiently extensive to understand or explain illness. He described the paradigm as ‘the dominant folk model of disease in the western world’, suggesting that it had become a ‘dogma’ (Engel’s 1977 p.130). This comment highlighted Engel’s belief that the model was a social construct as opposed to a universal truth based on empirical evidence. He argued that the resulting limitation led to poor care as all illnesses (under the biomedical model) derived from deviations from the norm of measurable biological variables allowing no room for the social, psychological or behavioural dimensions of illness. He illustrated his point by describing the shortcomings of the treatment of two common health conditions, under the biomedical model. He suggested that patients with either diabetes or schizophrenia may have biochemical abnormalities (indicating the presence of the disease) without experiencing any symptomology and that psychological and social factors are crucial in determining whether patients’ come to view themselves or by others to be sick. Contrastingly, others who are experiencing illness are reassured of being well due to a paucity of biological markers.

As Turpin and Iwama (2011) observed the biomedical model had gradually become the dominant model of health in Western countries from the mid-1800s through the rise of medicine. Taylor and Field (2003) listed the main tenets of the biomedical model of health as: the absence of pathological abnormality; that diseases have specific antecedents; restoration of health is achieved through interventions that arrest, or reverse, the disease process and; the health of a society is seen as dependent on medical competency.

The dominance of the biomedical model of health was consolidated in the nineteenth and early twentieth centuries through the development of hospitals. Within these institutions the patient was expected to submit (passively) to both investigations and interventions identified by the (expert) clinician (Taylor and Field, 2003).

Engel's suggested that under the BPS model the clinician would need to develop a different relationship with their patients and new analytical skills. Under the previous paradigm the clinician was 'all powerful' whilst the BPS required a collaborative approach addressing issues outside the doctors immediate control. With regard to changes in skills presumably the clinician would be required to effectively communicate with their patient (to elicit psychosocial variables) and synthesise these added factors into a successful intervention. The next section will explore the concepts underpinning the BPS model.

2.2.2 Theoretical basis of the BPS.

Engel's drew on the general systems theory perspective to underpin the BPS. He described it as an, 'approach where by treating sets of related events collectively as systems manifesting functions and properties on the specific level of the whole has made possible recognition of isomorphies across different levels of organisation as molecules, cells, organs, the organism, the person, the family, the society or the biosphere' (Engel, 1977 p.134). He further postulated that through this process fundamental laws and processes can be developed that operate commonly at all levels of organisation. Here is a description of the proposed theoretical underpinning of initially the BPS and in time the ICF. When one considers the diagrammatic illustration of the relationship between the ICF components (see figure 1.1) a direct parallel between the general systems theory and the WHO schema can be observed whereby manipulating one (or more) variable can affect the whole.

2.2.3 The development and application of the BPS.

Over the past four decades the BPS has suffered a similar fate as its predecessor (the biomedical model) becoming in the words of Pilgrim 'established as psychiatric orthodoxy' (Pilgrim, 2011 p.586). The hegemony of the model has unsurprisingly led to a debate on its merits and limitations (McKay et al, 2012; Stier, 2014).

Despite its critics the BPS has expanded its influence over different psychiatric and medical specialities since its inception. Not only is it a psychiatric orthodoxy it also holds sway over such varied fields as pain (Lumley et al, 2011), obsessive compulsive disorders (Taylor and Jang, 2010), dementia (Clare et al., 2012), diabetes (Segal et al., 2013) and spinal cord injury (Geyh et al., 2012).

At different points in its existence the BPS has been re-examined (Sadler and Hulgus, 1990) leading to recommendations for further development, such as broadening the model to specifically incorporate spirituality (Elias et al, 2015) and religion (Hill, 2010). These are a variety of diverse and shared opinions from the recommended revisions. Sadler and Hulgus, (1990) reviewed existing criticisms and concerns about the BPS. Broadly these focused on concern regarding acceptance of the model, fear that it is without practical use for the clinician and in reality is too time consuming to use. They also expressed concerns that students and newly qualified doctors demonstrated a clear preference for the biomedical rather than BPS model of health. They concluded by asserting that concern about the universal acceptance of the BPS model appears justified.

A further concern illustrated by Sadler and Hulgus (1990) is that of philosophical coherence and clinical utility. They suggested that the concept did not specify particular methods for testing claims and was not coherent in the tradition of scientific research. Whilst these criticisms may at first be interpreted as reflections on the more positivistic traditions of the time contemporary commentators have expressed similar concerns (Epstein and Borrell-Carrio, 2005). Epstein and Borrell-Carrio (2005) proposed that rather than being an empirically verifiable theory a coherent philosophy, or a clinical method the BPS is a vision and an approach to practice. They expressed concerns that on occasions the vision can be confused with ideological dogmatism leading to an abandonment of the vision entirely or in selected situations. In contrast to Sadler and Hulgus (1990) they were not calling for a wholesale rejection of the BPS but rather a different approach to its application. They suggested that habits of mind may be the missing link between a biopsychosocial intent and clinical reality, and proposed these habits included attentiveness, peripheral vision, curiosity and informed flexibility which could be taught and reinforced. They concluded that this required a clinician's commitment to an ongoing process of 'becoming biopsychosocial'. This obligation on the behalf of the clinician reflects Engel's original assertion that adoption of the BPS requires a fundamental change in clinical practice. Stier (2014) expressed his concerns about the lack of a coherent scientifically proven concept underpinning the BPS suggesting that it is anarchistic as it can emphasize the 'bio' or the 'psycho' or the 'social' and there is no recognised rationale for the direction chosen. He concluded that this ultimately leads to arbitrariness and vagueness.

In contrast to the concerns expressed about the lack of coherence a fear expressed in the ongoing debate is that of an abandonment of the humanistic principles of the BPS (Ghaemi, 2009). A number of commentators in the fields of psychiatry and pain management have lamented the (perceived) retrenchment of the BPS and return to the reductionist position of the past (Healy 2011; McKay et al, 2012). They attribute this movement to the introduction of new models of care e.g. recovery and interventional pain medicine that are competing and at times superseding the BPS.

Healy (2011) reflected on the growing impact of the Diagnostic and Statistical Manual of Mental Disorders (DSM) on psychiatric practice and suggested that it has now become ubiquitous in contemporary psychiatry and advocated its impact be mediated through the use of the BPS as a 'necessary corrective' (Healy, 2011 p.163). The need for a 'corrective' arises from concerns that a biomedical based, rule-governed system of classification which whilst enhancing the consistency and reliability of psychiatric diagnosis, does not consider the psychosocial variables in the assessment or formulation of interventions. Once again this appears to illustrate the ongoing tension between the biomedical and BPS models of health.

Contrastingly, other observers within pain management described the movement from a more reductionist model to the BPS and the tribulations that this creates for clinicians (Synnott et al, 2015). The same authors surveyed physiotherapists experienced in the management of low back pain (LBP) as to their perceptions about identifying and managing the cognitive, psychological and social factors that may act as barriers to recovery for people with LBP. Their findings coalesced around three main themes: only a partial recognition of the psychosocial factors associated with LBP; occasional stigmatisation of patients as demanding, attention-seeking and poorly motivated when they presented with behaviours suggestive of these factors; and a questioning of the relevance of screening for BPS factors because they were perceived to extend beyond their scope of practice, with many feeling under-skilled in addressing them. The researchers concluded that physiotherapists perceived that neither their initial training, nor currently available professional development training, instilled them with the requisite skills and confidence to successfully address and treat the multidimensional pain presentations seen in LBP (Synnott et al, 2015).

These findings suggest that across a number of diverse clinical areas the BPS is currently but inconsistently applied. Some of the results suggest as simple an explanation as the ‘marmite effect’ whereby some clinicians love the concept while others have a strong aversion. This inconsistency of approach and application cannot be helped by the perceived incoherence and arbitrariness of the BPS and the associated difficulties in operationalising the model. Many of these tensions are echoed in the commentary surrounding the ICF.

The next section will briefly explore how rehabilitation has evolved within the realms of the BPS model.

2.2.4 The evolution of models in rehabilitation.

The changing paradigms in rehabilitation reflect those seen in general healthcare although have some unique characteristics (Turpin and Iwama, 2010). The Concise Oxford dictionary (1995) defines medicine as, ‘the science or practice of the diagnosis, treatment and prevention of disease’ whereas to rehabilitate is described as, ‘restore to effectiveness or normal life by training etc.’ These definitions serve to illustrate that one works at the level of disease whereas the other is focused on the ability to effectively function.

From an Occupational Therapy perspective the 1970’s coincided with an increasing alliance to medical trends that focused on isolated cause and effect principles of illness (Chapparo and Ranka, 2000). During this era the medical diagnosis permeated all aspects of decision making, rather than the occupational need, and clinical decision making became reductionistic. These observations historically match with Engel’s 1977 criticisms of the biomedical model indicating how society and medicine were influencing the thinking and practice of the profession at the time. From a physiotherapy perspective the ‘cognitive era’ (from the mid-twentieth century) led to the development of the hypothetico-deductive model of reasoning, that is closely associated with the biomedical model.

Turpin and Iwama (2010) commented that although occupational therapy always had humanistic as well as biomedical influences, the mechanistic ideas of the West are most evident in the occupational therapy models of the 1980s. These models emphasized the effect on performance of an individual’s impairments. The same authors asserted that a humanistic perspective remained a primary characteristic of occupational therapy, even when the influence of biomedicine was at its strongest. This led to the emergence of an open systems approach that conceptualizes humans as consisting of layers of mutually influencing systems very much in accordance with the BPS. They concluded that the BPS characterises occupational therapy most closely (Turpin and Iwama, 2010).

Once again approaches to clinical reasoning reflect the changes in the broader models adopted by the AHP’s. During the 1980s and 1990s the ‘interpretive’ tradition became more prevalent across parts of the ‘developed’ world (Edwards et al, 2004; Mattingly and Fleming, 1994). This perspective is closely associated with more holistic models such as the BPS, where one system e.g. biological does not dominate. The authors come from a physiotherapy background suggesting that the movement away from a biomedical model mirrors (for physiotherapy) the changes that were occurring within occupational therapy.

There seems to be little consensus as to what really constitutes a true BPS approach and therefore in which direction rehabilitation is travelling. This perception appears to largely depend on the world view of the commentator.

2.2.5 Summary.

The BPS has both its supporters and detractors with strongly contrasting opinions as to its coherence, consistency, effectiveness, utility and overall value. Paul Fink in a conference address in 1988 suggested it was a ‘shibboleth’ as opposed to a potent and effective model (Fink, 1988) and therefore primarily a doctrine to espouse. Whilst others have advocated a wholesale adoption of the model to preserve the holistic nature of psychiatry (Healy, 2011; McKay et al, 2012).

Within rehabilitation there seems to be divergence as to the true nature of the BPS and therefore whether it is desirable, practical or indeed currently being practiced. Some clinicians appear to feel more comfortable with the biomedical model, others advocate and believe they are practicing within the BPS parameters, whilst other clinicians believe true BPS is not being practiced and yet another feel it should be further expanded to include additional components such as economics, religion and spirituality. Maybe Fink's assertion has some merit, because as model is to some as much a doctrine as a coherent model of practice. This ambiguity may simultaneously be the strength of the model, enabling a flexibility for application across a myriad number of situations, fields and people, and a weakness leading to inconsistency, misunderstanding and tension between those espousing the model and those who question its coherence and application.

The next section will consider the evidence specifically relating to the introduction of the ICF and whether some of the strengths and limitations observed in the BPS are reflected in the WHO schema.

2.3 The International Classification of Functioning, Disability and Health (ICF).

2.3.1 Background and development of the ICF.

The World Health Organisation was established along with a number of international bodies in the aftermath of the Second World War. It was founded on human rights principles and its primary purpose was to achieve the highest possible level of health for all people (WHO, 1947). Ustun et al., (2003) in their description of the genesis of the ICF noted that the WHO's 1947 Constitution requires that, 'each Member shall provide statistical and epidemiological reports in a manner to be determined by the Health Assembly' (p.80). The same authors stated that 'causes of death' had been reported via the WHO's International Statistical Classification of Diseases (ICD-10), although there was a paucity of data on the overall health status of living populations such as functioning and disability. This need led to the development of the International Classification of Impairments, Disabilities and Handicaps (ICIDH) (WHO, 1980) (see figure 2.1)

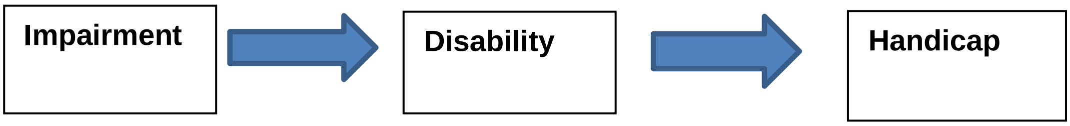


Figure 2.1 Pictorial representation of the ICIDH

Initially the ICIDH was welcomed because it moved away from the biomedical view of focusing exclusively on impairments by recognising the effect at the activity and societal level (Bury, 2003). Greater scrutiny led to increasing demands for the revision or abandonment of the ICIDH due to concerns around ongoing adherence to the biomedical model through the continued causal relationship between impairments, disabilities and handicaps (Hurst 2000). The rationale for its development may have contributed to its perceived weaknesses because it was primarily designed as a tool for the classification of the consequences of disease at a population level as opposed to a clinical framework for the purposes of rehabilitation (Ustun et al., 2003).

In response to the increasing demands, the WHO began a revision process in 1993 to address the urgent need for a framework for measuring and reporting health at both individual and population levels. The WHO collaborated with interested parties including governmental and non-governmental organizations and groups representing people with disabilities. Through this collaborative process they systematically developed a revised version of the ICIDH. An exhaustive literature search of existing classifications and assessment tools resulted in the development of a 3000- plus item pool of potential classification domain names for areas of human functioning at the body, person and societal levels (Ustun et al., 2003).

Ustun et al’s, (2003) description of the development of the revised ICIDH suggests an inclusive and systematic approach although the WHO has been criticised in the past for lacking diverse representation within its organisation (Scruton 2000). In contrast to the original ICIDH the revised version underwent field trials concentrating on its cultural and linguistic applicability and the classification structure (Ustun et al, 2003). This led to further consultation and through an expert drafting team the ‘beta 2’ draft was produced.

Following a further round of field trials focusing on reliability and utility a ‘prefinal draft’ was produced and put on the internet for comment. This draft was renamed as the ICF and unanimously endorsed in May 2001 at the Fifty-fourth World Health Assembly, at which point member states were urged to use the ICF in their research, surveillance and reporting whenever possible (Ustun et al, 2003).

The following sections will examine the application of the framework in practice and the commentary related to its introduction.

2.3.2 The recommended scope of the ICF.

The ICF has been advocated for many uses (Cerniauskaite, et al 2011, Jelsma, 2009; Schuntermann, 2005). The WHO recommended that it can be applied as a: statistical tool in population studies; research tool for measurement of outcomes, quality of life or environmental factors; clinical tool for needs and vocational assessment, rehabilitation and outcome evaluation; social policy tool in social security planning, compensation systems and policy design and implementation; and an educational tool for curriculum design and to raise awareness and undertake social action. In addition they suggested that it may also be used by sectors such as insurance, social security, labour, education, economics, social policy and general legislation development, and environmental modification (WHO, 2001). It has also been referred to in and incorporates *The Standard Rules on the Equalization of Opportunities for Persons with Disabilities*. The WHO therefore concluded that it provides an appropriate instrument for the implementation of stated international human rights mandates as well as national legislation (WHO, 2001).

These assertions provide an insight as to the perceived extent of the frameworks use and flexibility of its application. The ICF manual does not specify how the framework can be adapted or applied to these various purposes or settings.

The WHO also recommends that the ICF should be used in conjunction with the ICD-10 (International Classification of Diseases, Tenth Revision), which provides an etiological framework. This approach would see the ICD-10 providing a ‘diagnosis’ of disease, disorders or other health conditions, whilst the ICF would enrich the process by providing additional information on functioning (WHO, 2001). A paper authored by the Functioning Topic Advisory Group of the ICD-11 outlined how the revision of the ICD-10 could lead to a more harmonised method of integrating the frameworks can be achieved (Escorpizo et al, 2013). The authors noted that there is no standard platform in which the disease and its impact on functioning are used and that efforts to capture the impact of a disease in a structured and systematic way have so far been hampered by the failure to link the ICD and the ICF at a conceptual and operational level. This demonstrates an aspect of the development of the ICF whereby the WHO proposed a potential use of the framework without the tools being available for application.

An area not within the scope of the ICF is that brought about by socioeconomic factors. This restriction contradicts many commentators who are advocating for a greater recognition of the effects of socio-economic factors on health and functioning. Turpin and Iwama, (2010) suggested that a common criticism of the BPS model of health is that while it conceptualizes the individual as influenced by his or her broader context, it remains focused on the individual. The authors elaborated suggesting that health care appears to be increasingly influenced by a third model, a socioecological model of health. A socioecological model of health focuses on the broader patterns of health distribution in a society. It is concerned with the fact that ‘some people have poorer health than others do and, more importantly, that certain groups of people have poorer health than others’ (Reidpath, 2004, p.9). Marmot (2015) acknowledged that there is a direct relationship between poor health and socio-economic factors and that unhealthy life leads not only to earlier death but also deterioration in grip strength, mobility and cognitive functioning (Guardian, 2015). This is contrary to the WHO assertion that ‘the classification remains in the broad context of health and does not cover circumstances that are not health-related, such as those brought about by socioeconomic factors’ (WHO, 2001, p.7) and that there is indeed a relationship between socio-economic status and functioning. It suggests that if data collected via the ICF were to be an effective social policy and research tool (used at a population level) then a socioeconomic component maybe required within the ICF.

The extensive recommended application of the ICF, ranging from medicine to human rights legislation, reflects its foundation on the biopsychosocial theory (WHO, 2001). Whilst one unifying framework maybe desirable, application across disparate contexts may weaken the schema’s sensitivity. This multiplicity of uses is further exacerbated by a lack of definitive descriptions or tools for its application.

Since its adoption in 2001 a number of studies have investigated the application of the framework.

2.3.3 The use of the ICF in practice.

In their review article Cerniauskaite et al (2011) discovered that the ICF was being employed across health, social care and welfare sectors, in a variety of countries. The authors identified a total of twenty-five papers describing the practical applications of the ICF in contexts such as disability, education, employment or statistics. They concluded that the distribution of the research and use in a great variety of fields and scientific journals indicated that a cultural change and a new conceptualisation of functioning and disability were occurring (Cerniauskaite, et al 2011). Jelsma (2009) in her literature survey commented that the ICF had already made a major impact on the way in which data concerning disability is conceptualized, collected and processed.

In relation to clinical practice the WHO recommended that the more detailed four-level version is used for specialist services such as rehabilitation whereas, the two-level classification can be used for surveys and clinical outcome evaluation. This would suggest that rehabilitation teams across the 191 countries that have adopted the framework should be using the ICF regularly, but that it is not universally applied; Jelsma (2009) in her literature survey commented that utilisation in developing countries must be encouraged.

Adoption (in developed countries) may also have been influenced by barriers such as the lack of knowledge of the ICF, inadequate time, resources, a lack of fit between the ICF and therapists' current approach and inexperience of using the framework (Farrell et al., 2007; Heinen et al., 2005). In their survey of Canadian Occupational Therapists Farrell and colleagues (2007) found that almost a third of respondents (n=182, 31.0%) rated their knowledge at one out of ten for the model (i.e., 'never heard of the ICF model') and the same number provided this rating for the classification system. Of those who knew of the ICF only 121 (29.2%) respondents indicated *yes* to using the ICF in practice (Farrell et al 2007). This suggests a significant shortfall between those knowing the ICF and those using it in practice. The reason for this disparity was not discussed in detail.

Regarding the clinical application of the ICF, the picture remains unclear. A number of primarily descriptive studies have recommended its use in a variety of clinical activities (Stucki et al., 2002; Rentsch et al., 2003), although there continues to be limited evidence regarding its everyday application within rehabilitation services.

Stucki and colleagues (2002) concluded that the adoption of the schema may not only strengthen communication within and across teams but also between patients and rehabilitation professionals. Cerniauskaite et al., (2011) also approved of its use suggesting that the ICF's biopsychosocial model of disability provides the common language needed for evidence-based policy development. A number of other commentators have recognised its potential for enhancing communication (Rentsch et al., 2003; Schuntermann, 2005; Tempest & McIntyre, 2006; Scarponi et al., 2009; Harty et al., 2011).

Clinical activities closely associated with enhanced communication have also been proposed as gaining benefit from the use of the ICF. These include clinical reasoning (Atkinson and Nixon-Cave, 2011; Josephson et al., 2011; Tempest and McIntyre, 2006; Steiner et al., 2002), definitions of roles within the team (Tempest and McIntyre, 2006), patient interviews and goal setting (Worrall et al., 2011; Schuntermann, 2005; Harty et al., 2011) and structuring of therapy (Darzins et al., 2006; Rentsch et al., 2003). Additional activities identified as being influenced by the application of the ICF include: factors influencing employment following disability (Minis et al., 2009), the identification of variables affecting participation in rehabilitation (Rimmer, 2006), staff satisfaction (Verhoef et al., 2008), and the selection of outcome measures (Gilchrist et al., 2009). The use of ICF core sets (see 2.3.5) have also been proposed as a method of ensuring that all the biopsychosocial aspects of specific health conditions have been identified (Stucki et al., 2002; Scarponi et al., 2009).

There is growing evidence regarding the many uses of the ICF. In view of the number of its potential applications the priority and preferences of clinicians for its everyday use has received limited attention. Tempest and Jefferson (2015) surveyed clinicians as part of this study. Among the authors' conclusions were that the action research approach enabled clinicians to explore the ICF in action, and that clinicians are able to generate many potential ways of adopting the ICF in practice, thus reflecting the flexible scope of the ICF.

In summary the WHO recommends that the ICF be used in practice across a number of different sectors and in rehabilitation to the deepest (fourth) level. Commentators have advocated its use across a wide variety of clinical activities (Cerniauskaite et al., 2011), although many of these recommendations have not been generated directly from implementation studies. There remains limited evidence as to the adoption of the ICF within clinical practice or to the barriers or facilitators to its application. The subsequent section will review the evidence of the implementation of the framework into practice.

2.3.4 Process and outcome of implementing the ICF: the evidence.

There is scarce empirical evidence on the outcome of implementing the ICF in clinical practice. One such investigation into two multidisciplinary teams in rheumatology (Verhoef et al., 2008) concluded that health care professionals held mixed opinions on the benefit of the implementation of the ICF. While staff satisfaction with team conferences increased in the day patient setting, this did not occur in the inpatient team. This study offers an insight into staff perceptions on the use of the ICF in clinical practice but, as the data was quantitative in nature, it is not known why staff held these opinions. Furthermore, the opinions from patients, carers and other interested parties were not sought to enhance these findings.

The research team concluded that the outcome of introducing ICF-based tools should be studied at the level of individual teams, to gain a greater understanding of the effects of using it in practice (Verhoef et al., 2008).

In the absence of definitive research evidence an additional way of establishing the extent of implementation of the ICF in practice is through the development of core sets. This data can only be suggestive of the clinical areas in which the ICF is either used or being considered rather than provide in-depth information on the process or outcomes of its introduction (see 2.3.5).

2.3.5 ICF core sets.

In 2003 the ICF research branch was established to commence the development of ‘core sets’. The rationale for core sets derived from concerns regarding the utility of the ICF. In its original format the ICF has over 1,400 items and therefore proved impractical in everyday clinical use (Stucki et al., 2008). The aims of the core set project were to produce minimal standards required for disease and site specific groups (Stucki and Grimby 2004) and to develop systematically practical sets of ICF categories for clinical practice (Stucki et al., 2008).

Over the last decade core sets have been developed for a growing number of health conditions or clinical settings. The development of core sets has not been without its critics. As McIntyre and Tempest (2007) observed, the core sets project could be seen as a return to classification according to disease, which does not correspond to the underlying theory of the BPS model and therefore the founding principles of the ICF.

The proliferation of core sets (over 30 between in the first 8 years of the ICF) provides some indication as to the application of the ICF, although it does not provide empirical evidence of its universal use (icfresearchbranch.org/.../viewcategory/5-icf-core-sets).

2.3.6 Process and outcome of implementing the ICF: the commentary.

Since the ICF's adoption in 2001 a number of commentators have reported on the framework (Cerniauskaite et al., 2011; Stucki et al., 2002; Wiegand et al., 2012) The majority have given their opinion following either a process of review or studies based on specific aspects of the framework e.g. core set development, as opposed to a systematic introduction of the framework into practice (Tempest and Jefferson, 2015). This results in a wide variety of opinion based on diverse levels of analysis often reflecting the stance of the individual commentator and frequently focusing on conceptual aspects of the framework.

Stucki et al (2002) concluded that the model, 'provided a coherent view of health from a biological, individual and social perspective' (p.37) The same authors also suggested that the adoption of the schema may not only strengthen communication within and across teams but also between patients and rehabilitation professionals, ultimately resulting in a stronger position for rehabilitation within the medical community. Cerniauskaite et al (2011 p.285) also approved of its use stating, 'ICF, in our opinion, represents the most comprehensive classification system, since it describes disability at the level of the body, in terms of impairments, at the level of the person, in terms of activity limitation and at the societal level, in terms of participation restrictions. Moreover, it makes it possible to report on the presence and effectiveness of environmental factors'. The same authors also suggested that the ICF's biopsychosocial model of disability provides the common language needed for evidence-based policy development. These conclusions have not been shared by all commentators. Conti-Becker (2009) considered Stucki et al's findings. She proposed that the authors' description of rehabilitation medicine e.g. treating impaired body structures and functions, overcoming impaired body functions, activity limitations and participation restrictions and to prevent further symptoms and disability, reflected a reductionist biomedical approach which was at odds with the BPS theory and dehumanised the relationships between practitioners and clients and limited care. Implicit in BPS was that for effective care practitioners needed to understand the individual (Conti-Becker, 2009). She concluded that, ‘prioritising biological factors over personal factors and failing to meaningfully address the influence of personal factors limits the ICF’ (Conti-Becker 2009, p.2127). Stucki et al (2002) commented on the need to consider function within its context and that the WHO recognises the need to further develop the personal factors.

Conti-Becker is not alone in expressing concerns about the perceived bias towards observable data. Duchan (2004) asserted that the primary focus of the ICF is on categorising the biological and psychological aspects of disability. She expressed a fear that if the ICF is used to carry out all aspects of clinical practice we could lose sight of the person. She expressed a concern that clinicians would be more likely to treat the person with a disability as someone with a codable condition rather than as a human being who experiences that condition and proposed that, ‘the most relevant approaches for revealing and emphasising a person’s life experiences are ones that are grounded in narrative discourse. Personal narratives are, for many, the best means to convey and understand a person’s life experiences’ (p.65). This would seem to better reflect the underlying principles of the BPS as described by Conti-Becker (2009). Duchan continued by suggesting that narratives are a natural vehicle for working within a social model and for change in power relations between clinician and patient moving the focus from what is wrong with the patient to how to support people to achieve their life goals. Despite this she acknowledges that the ICF is an improvement on its predecessor which possessed no contextual factors. Whalley Hammell (2004) stated that the ICF is not client-orientated and is more concerned with coding and categorising. She suggested that whilst researchers almost universally accept the schema there remains considerable opposition from disabled people. The significant difference of opinion amongst these commentators is likely to reflect the diverse underlying theories of the ‘medical’ and ‘social’ models of disability. The WHO acknowledged this friction when stating, ‘a variety of conceptual models have been proposed to understand and explain disability and functioning. These may be expressed in a dialectic of ‘medical model’ versus ‘social model’ (WHO p.20)

In summary, the ICF purports to be integrating two polarised models of disability into one framework. Whereas some commentators feel this integration is being achieved others are concerned that the biomedical components remain dominant (Soder, 2009). Shakespeare (2014) observed that impairment and activity limitations are not always clearly distinguished and that arguably the concept of impairment should have been excluded from the ICF and been exclusive to the ICD-10. He suggested that this and the difficulties in understanding and operationalising the ICF (Bickenbach, 2012; Davis et al., 2012) led some users (of the ICF) ‘to slip back to the ICIDH distinctions between impairment, disability and handicap’ (Shakespeare, 2014 p.80). The representation of the different ICF components will be explored in this study, especially when applied in different contexts e.g. in-patient and community.

This friction between the biomedical and psychosocial aspects of disability is brought into relief when examining the application of the ICF to specific clinical activities and in the measurement of particular ICF components. The following sections will explore these issues.

2.3.7 The ICF and clinical activities.

This section will briefly outline the concept and methods of clinical reasoning and its expression within the MDT through goal setting. It will then specifically examine the relationship of the ICF to these activities.

2.3.7.1 The ICF and clinical reasoning.

Reasoning, and the more contemporary term of *clinical* reasoning has proven difficult to pin down (Simmons 2010). Aristotle (cited, Mattingly and Fleming, 1994 p.12) stated, ‘the unconditionally good deliberator is the one whose aim expressed rational calculation in pursuit of the best good for a human being that is achievable in action. Nor is intelligence about universals only. It must also come to know particulars, since it is concerned with action and action is about particulars. Hence, some people who lack knowledge but have experience are better in action than others who have knowledge’. Aristotle’s assertion suggested that reasoning is a multi-factorial skill encompassing not only knowledge, but a concept of ‘good’, an awareness of the specific situation and experience. It is therefore not surprising that it is a difficult concept to define.

Reasoning, in the clinical context, suffers from the same complexities. Simmons (2010) defined it as; ‘as a complex process that uses cognition, meta cognition, and discipline-specific knowledge to gather and analyse patient information, evaluate its significance, and weigh alternative actions’ (Simmons, 2010 p.1155)**.** Whereas others have described it as: a thinking process towards enabling the clinician to take wise action (Higgs and Jones, 2000) or; ‘thinking used by therapists to consider ‘what they perceive in the way they view their clients, what they focus on as their central problem, (and) what they ignore’ (Mattingly and Fleming, 1994, p.37). This array of definitions reflects the variety of ways clinicians’ reason, suggesting that reasoning may be influenced by the individual clinician’s background and experience and therefore variable within teams.

Sheehan, Robertson and Ormond (2005) suggested that the account of clinical reasoning moves from the quantitative to qualitative, mirroring the historical shift towards patient-centred care e.g. the growing recognition of the importance of subjective data in clinical reasoning.

2.3.7.2 Development of clinical reasoning.

During the 1950s the psychometric approach led to the development of the hypothetico-deductive model of reasoning. This model, has its roots in the scientific or positivist paradigm (Higgs & Jones, 1995) and holds that truth or reality (i.e., knowledge) is objective and measurable, thereby utilising observation and experiment to produce a result that, in turn, can be generalised (Edwards et al, 2004). Validation is achieved through reliable measurement of the patient.

During the 1980s the ‘interpretive’ tradition became more prevalent (Edwards et al, 2004; Mattingly and Fleming, 1994). This approach recognises that truth or knowledge is related to meaning and the context in which it is produced and, therefore, concedes that in any given situation there may be multiple realities, truths, or perspectives (Higgs and Jones, 1995). It emphasises the study of social interaction between team members and/ or patients as a form of reasoning and understanding. These approaches cannot solely rely on externally observed phenomena and the subjective becomes as important as objective information. Law, Baptiste and Mills (1995) proposed that both interactive reasoning and person-centred practice perceive that an understanding of and respect for the person's values and beliefs is central to practice; the focus on is 'doing with' rather than 'doing for' the patient and the patient and therapist are equal partners. These issues are of paramount importance when considering the ICF and clinical reasoning. If there are recognised differences in types of reasoning across both the elements of the biopsychosocial spectrum and different clinicians then this is likely to influence the use of the ICF as a reasoning tool within a MDT.

Speech and Language Therapists (SLT's), Cunningham and Rosenbaum (2015) described how traditionally, paediatric SLT interventions used a biomedical model in which SLTs provided interventions aimed at improving skills at the level of impairment. They suggested that in response to the publication of the ICF there has been a significant shift beyond the traditional focus, towards addressing a child's ability to 'participate' in life. This not only illustrates the movement away from the biomedical but also suggests that the publication of the ICF has directly influenced the theoretical framework of the discipline. By contrast Duchan (2004) suggested that manifestations of the medical model can be found in the ICF where a patient's problems are classified and coded for body function and structure. She referred to Threats and Worrall's (2004) observations that these diagnostic codings of the ICF are being used to classify client's speech and language disabilities. These contrasting observations illustrate the ongoing tension between those who see the ICF as a conduit towards BPS reasoning and those who feel it is a reification of the biomedical approach.

The co-ordination of clinical reasoning across the MDT is also important. Bovend'Eerdt et al, (2009) reported that, rehabilitation patients have 'multi-factorial, complex problems that often require several or many different interventions to be given by different people, frequently in a specific sequence' (p.352). This statement reflects the complex nature of rehabilitation and that patients require simultaneous interventions that range across the biopsychosocial model espoused by the ICF.

The clinical reasoning approaches utilised by AHP's broadly reflects the scope of the ICF in relation to biopsychosocial theory. It would appear that the hypothetico-deductive or diagnostic model is more closely aligned to the 'medical' model and therefore would be better suited to investigate the ‘health condition’ or ‘body function and structure’ components of the framework whereas the narrative or ‘interpretive’ approaches would lend themselves to ‘social’ or ‘participatory/ personal’ components of the schema (see table 2.1).

To add further complexity rehabilitation is often delivered through the vehicle of patients’ goals. The National Clinical Guidelines for Stroke (Royal College of Physicians, 2008) defined goal setting as an agreed behavioural target between the patient, therapist or team to be the focus of intervention over a specified period of time. If the target of rehabilitation is a change in the individual’s behaviour then the subjective opinion, regarding the importance and perceived competence in the activity will not only need to be investigated but also included in the reasoning process. For example if the patient’s perception of his or her performance significantly differs from the observed findings of the clinician, then this needs to be further explored, to establish whether this discrepancy is due to the patient’s self-awareness, limitations in the clinician’s analysis or other factors. Subjective opinion alone is unlikely to be sufficient to ensure effective clinical reasoning. It is probable that aspects of the individuals functioning (around body functions and structure) may be amenable to remediation. Therefore a reasoning approach designed to problem solve through the capture of external observed objective data will be required. To complete the picture of complexity many patients require support to help them in the difficult process of re-constructing a life that is now permanently changed by injury or disease (Ylvisaker et al., 2008). Under Mattingly and Fleming’s (1994) typology this would be achieved through ‘conditional reasoning’ requiring the therapists to think about the whole condition, including the person, the illness, the meanings the illness has for the person, the family and the social and physical contexts in which the person lives.

ICF component	***Possible Reasoning model***
Health condition	Diagnostic reasoning
Body function/ structure	Diagnostic / hypothetico-deductive reasoning
Activity/ Participation	Hypothetico-deductive; interactive; conditional and narrative.
Environmental factors	Hypothetico-deductive; interactive; conditional and narrative.
Personal factors	Interactive; conditional and narrative.

Table 2.1 ICF components and potential reasoning models

Sheehan, Robertson and Ormond (2005) suggested that the contributions of skills and knowledge of different team members should result in positive outcomes for both the team members and client, who should benefit from the diverse but complementary input from a range of professionals. This would suggest that for a holistic approach reflecting all of the components of the ICF, different disciplines and clinicians should apply diverse reasoning, resulting in the ‘whole being greater than the component parts’. Once again, the co-ordination of this approach would be essential for success.

2.3.7.3 Goal setting.

There is no universally accepted definition of goal setting in rehabilitation (Scobbie, Whyke and Dixon, 2009). Although the underlying theory and evidence remains limited (Scobbie, Whyke and Dixon, 2009; Rosewilliam, Roskell and Pandyan, 2011) it is considered an essential component of rehabilitation (Levack et al., 2006). These statements illustrate the centrality of goal setting in rehabilitation; it is a crucial component of the therapeutic process and the conduit for communication and reasoning between the patient and therapist and within the MDT. Whilst its significance is acknowledged, the practice of goal setting remains variable (Rosewilliam, Roskell and Pandyan, 2011). This inconsistency may be due to the number of purposes ascribed to goal setting (Levack et al., 2006), the limitations in its theoretical underpinning and variations in clinicians' attitude towards the practice (Parry, 2004). This results in a situation whereby goal setting is comprehensively espoused but inconsistently practiced.

The wide variation in the purpose and practice of goal setting may reflect more underlying differences in the practice and epistemological approach to rehabilitation, whereby it is either a biomedical linear activity with objective measurement or a psychosocial endeavour requiring the unpredictable, iterative and subjective reconstruction of self (Brown et al., 2014). The subsequent sections will consider goal setting (in relation to the ICF) from both stances.

2.3.7.4 Goal setting and objective measurement.

Processes such as goal attainment scaling (GAS) and SMART (Specific, Measurable, Attainable, Relevant and Timely) goals attempt to standardise goal setting to construct goals that are sufficiently specific to be measurable, whilst reflecting the individuals circumstances (Bovend'Eerdt et al., 2009). This balancing of patient and organisational obligations is influenced by the specific nature of the processes employed. Simple GAS can be binary in measurement whereby goals are either achieved or not or at its most complex calculated by an elaborate formula (Turner-Stokes, 2009). Turner-Stokes, (2009) whilst acknowledging that the more complex GAS methods may exclude patients from elements of the process, asserted its effectiveness. Wade (2009) acknowledged the usefulness of GAS in randomised control trials, although cautioned about its use in daily clinical practice as it 'becomes demotivating and liable to gaming' (p.294).

These observations suggest a tension between those who advocate goal setting as an objective outcome measure and those who promote as a method to capture subjective experience.

2.3.7.5 Goal setting and subjective experience.

Commentators have indicated limitations in the current system of goal setting suggesting that it is insufficiently patient-centred (Levack et al., 2011; Rosewilliam et al., 2016; Parsons et al., 2016). They attribute these difficulties to divergent clinicians' and patients' beliefs and attributes (Levack et al., 2011) and environments that disempower both professionals and patients (Rosewilliam et al., 2016).

These findings suggest that whilst goal setting is often promoted as being patient-centred, in reality this is not always the case. Parsons et al., (2016) implicated the SMART system of goal setting as potentially disempowering to patients because it adhered to predetermined objective outcomes and that the protocol (in in-patient and community stroke teams) required completion within a set period of time, resulting in only a cursory discussion with patients before setting goals. Differences in the perception of goals between clinicians and patients were exposed in Brown et al's., (2014) study of post- acute stroke rehabilitation. The authors described how patients perceived goal setting including a difference in focus, a reluctance to rely on predetermined time scales for achieving performance, how seemingly insignificant achievements were symbolic and occasionally an unwillingness to reveal their implicit goals to clinicians for fear of being perceived as unrealistic. These findings may partially explain the discrepancy between clinicians' beliefs that they are engaging in patient-centred goals setting and patient reports to the contrary. To many patients recovery is not a predictable linear process between baseline and outcome, but more an unchartered journey where predetermining the destination is unrealistic. These findings chime with those of the loss of self, experienced following events such as brain injury (Medved and Brockmeier, 2008), whereby specific functional activities, whilst important, may not capture the essence of a patient's desired recovery.

Goal setting in rehabilitation is therefore divided between the need to provide quantifiable data to justify allocation of resources and the desire to reflect the meaningful needs of the patients. When applying the ICF as a framework for goal setting, the divergent epistemology and approaches are further exposed.

The ICF has been recommended as a framework for goal setting in areas such as post-acute rehabilitation (Lohmann et al., 2011), physiotherapeutic vocational rehabilitation (Finger et al., 2015) and neurological rehabilitation (Murphy and Boa, 2012). In addition to its use for generating patient goals the ICF has also been advocated in conjunction with goal setting to identify accurate case mix (Madden, Marshall and Race, 2013), workload (Grill et al., 2010) and outcomes (Lexell and Brogardh, 2015). These findings reflect the multiplicity of goal setting processes described earlier whereby goal setting can be both a mechanism for clinical practice and an organisational tool for allocating resources and measuring outcomes.

Therefore the recommended uses of the ICF within the goal setting process echoes the existing dilemma as to whether goals are primarily an individual, patient focused tool or an organisational mechanism designed to measure outcomes and manage resources. Kristensen et al, (2017) examined rehabilitation from a discourse analysis perspective, suggesting that the WHO's emphasis on freedom and autonomy in their definition of rehabilitation reflects a neoliberal stance that is concerned with using cost–benefit calculations grounded on market-based principles. This focus may therefore explain the development of the ICF and goal setting into a mechanism to manage the allocation of resources, as opposed to a solely patient-centred tool.

2.3.7.6 Summary of ICF and clinical activities.

In summary, the literature suggests that the clinical reasoning models available to clinicians are sufficient and diverse enough to cover the biopsychosocial components included in the ICF (see table 2.1). In its present form the ICF is limited as it does not advocate the collection of subjective data and in the lack of classification of personal factors does not require the capturing of a complete narrative. The co-existence of the ICF and clinical reasoning models suggests that therapists are not adhering unfailingly to the protocol of the ICF application e.g. the use of objective data exclusively, and can work within the parameters of a number of models simultaneously. Although ultimately this results in a dilemma central to clinical reasoning and the ICF: does the clinician adhere to the protocols of the ICF and only collect externally observed, objective information; or follow the recommendations from the literature and capture patient reported, subjective data. If the narrative model of reasoning is used to problem solve issues around participation the therapist is required to focus and base decisions on subjective data, whilst ICF coding of participation is based on externally observed, objective information. The clinician therefore has to either code incorrectly (subjective, patient reported performance) thus weakening the accuracy of the framework or adhere to the coding protocol of the ICF and potentially ignore the 'voice of the patient'.

2.3.8. Issues of measurement.

The literature indicates methodological concerns relating to the ICF and measurement e.g. those components that are associated with psychosocial functioning, such as participation and contextual factors. These next sections will examine these issues.

2.3.8.1 Participation.

The nature of measurement between the components of Activity and Participation has come under consideration. The WHO allows users to choose whether Activity and Participation should be considered along the same continuum, or view them as qualitatively different, perhaps representing two distinctly different constructs. For example, the Australian Institute of Health and Welfare (AIHW) proposed that activity describes activities whereas participation involves choice and judgements (AIHW, 2007). Conversely, Whiteneck (2006) asserted that activity can be assessed by a clinician, whereas participation is assessed by self or proxy because it describes the lived experience and therefore cannot be measured in the clinic setting. A number of authors have contributed to this discussion.

Hemmingsson and Jonsson (2005) suggested that the, ‘most serious problem with the operationalisation of participation in the ICF is the exclusion of the subjective experience of meaning’ (p.572).The authors identified that according to ICF definitions, the subjective experience is recognised. For examples the terms, ‘taking part’, ‘being included’ etc, but also report that the, ‘ICF comes to the conclusion that the only possible indication of participation is coding through performance’ i.e. an external observers impression (p.573). They therefore judge that the person’s subjective experience of meaning in not included. They suggested that this is ‘a major shortcoming’. The same writers explored further issues relating to participation and the ICF, and proposed that the experience of autonomy and self-determination cannot be captured through external observation and that again this is not addressed in the ICF. Their final concern focused on the complex relationship between different kinds of participation in a single life situation, suggesting that there may be a number of different participatory activities incorporated into one observed situation and that an external observer cannot accurately reflect the complexity of their meanings to an individual.

Similar concerns, regarding the ICF classification of communication, were expressed by O'Halloran and Larkins (2008). They considered it problematic to restrict communication to one specific category (as it permeates throughout many daily activities) and also noted that the context of communication is not considered. When commenting on the separation (or not) of activity and participation and the different emphasis on objective versus subjective data the authors concluded that, 'if the Activities and Participation component continues to be represented by a single list of domains, items and qualifiers, there is the risk that this component will be conceptualised and clinically interpreted to mean one perspective… and may become more limited as a result.' (p.26). Once again, reflecting Duchan's concerns regarding the fear of 'losing sight of the person'.

There remain concerns regarding the ICF's true adherence to the BPS theory model centred on the paucity of classification of personal factors and the difficulties of capturing the subjective experience of disability, especially within the 'participation' component. As Imrie (2004) observed the ICF is not yet complete and some elements of its theoretical and value bases require amplification and clarification.

One element that appears to require 'amplification' is that of addressing the subjective experience of health (through personal factors) and the nature of assessment and reasoning associated with it.

2.3.8.2 Context.

Until the introduction of the ICF context had not been formally recognised as a determinant in the WHO classification of disability (or health). Personal factors are 'not classified in ICF', although are included to show 'their contribution, which may have an impact on the outcome of various interventions' (WHO, 2001 p.17)

This statement from the WHO would suggest that whilst context is now acknowledged as influencing health it (particularly personal factors) remains poorly developed. This may be due to a number of historical, political and methodological factors (Bradby, 2012; Irwin and Scali, 2007) that will be elucidated in the next section.

2.3.8.3 Personal factors.

The WHO and others have acknowledged the need to further develop the personal factors component of the ICF (WHO, 2001; Duggan et al, 2008). The WHO stated that the rationale for ‘not classifying personal factors within the ICF is because of the large social and cultural variance associated with them… but which users may incorporate in their applications of the classification’ (WHO, 2001 p.8) This statement, whilst recognising the need for the personal factors, allows each user of the ICF to capture and use personal factor data in a distinctive way. This suggests that the personal factors are not only less developed but are used in an idiosyncratic manner. The ambiguous nature of personal factors is aggravated by the WHO’s definition of them being the particular background of an individual’s life and living, comprising features of the individual which are not part of a health condition. Whilst this may appear definitive, often the subtle effects of health conditions may be difficult to differentiate from personal traits. For example in the core set for Multiple Sclerosis, personal factors have been identified that may also be attributed to the health condition (Khan and Pallant, 2007) e.g. fatigue and heat intolerance.

Following their review of studies discussing personal factors, Muller and Geyh (2014) concluded that there were common elements, suggesting that the variance referred to by the WHO may not be as large and therefore the development of the personal factor domain maybe achievable.

Rehabilitation researchers have commented on the influence of personal factors on individuals’ functioning (Stamm et al, 2007) and their role in activities such as assessment, goal-setting or matching interventions to the person’s characteristics (Steiner et al, 2002; Gutenbrunner et al, 2007). Others have recognised the need to incorporate personal factors in the areas of the treatment of women with spinal cord injury (Duggan et al, 2008), people with neurogenic communication disorders (Threats, 2007), people with disabilities participating in physical activities (Rimmer, 2006) and those requiring changes in their health behaviour (Geidl, Semrau and Pfeifer, 2014). This growing body of evidence regarding the significance of personal factors in rehabilitation and the coalescence around a number of common areas indicates the need and potential for further development of the personal factors component of the ICF.

2.3.8.4 The paradox of measuring personal factors.

The need for the development of personal factors can be broadly defined as: the ethical, the effective and the legal. The ethical need to encapsulate personal factors into practice centres on the concept of person-centeredness (see 2.4). This approach emphasises the wholeness, autonomy, dignity, and uniqueness of each person and facilitates individualised or tailored interventions, shared decision making and respect for the person's needs, wishes and decisions (Gzil et al, 2007). Therefore to enact a person-centred approach the personal factors must be explored to achieve these requirements. The same authors concluded that providing person-centred care enhances the effectiveness of interventions (Gzil et al, 2007). This, in addition to the previously cited studies indicates that rehabilitation outcomes would be enhanced through the development and application of the personal factors component of the ICF. Finally, as acknowledged by Geyh and colleagues (2011), legally under the United Nations' Convention on the Rights of Persons with Disabilities, Article 26, the individual's 'needs and strengths' need to be reflected in their care.

Contrastingly, commentators have also expressed reservations about the development and application of personal factors. These concerns focus on two areas of application: capturing and classifying personal factors (Gzil et al, 2007; Stuber et al, 2008). Gzil and colleagues in a seemingly contradictory statement posed the question of how one can enter another's world or conceive the relationship between the individual and the worlds he/she lives in. This seems to be a valid question especially when considering the subjective nature of the potential personal factor components.

Factors such as physical activity, smoking, alcohol consumption, social behaviours, nutrition, sexual habits and ideology have been suggested as possible personal factors under the ICF (Badley, 2006; Grotkamp et al, 2012), Heerkens and Van Ravensberg, (2012) also proposed the inclusion of temperament, attitude, purpose in life, quality of life and beliefs. These authors also suggested that some of these facets should be considered modifiable and therefore, potentially, the focus of intervention.

The suggestion that personal factors could be classified and operationalised in a similar manner to the other components of the ICF have led some commentators to suggest this will result in the risk of stigmatization leading to the discrimination of persons with disabilities (Duchan, 2004). Stuber et al, (2008) in their review of stigma, prejudice and discrimination concluded that researchers are finding evidence that unconscious forms of bias exist even in the absence of overt expressions of prejudicial attitudes. Further studies have discovered that this can occur in healthcare settings (Puhl and Heuer, 2009). There is growing evidence that these unconscious biases are not only perceived by marginalised persons (Richeson & Shelton, 2005), but may lead to discriminatory behaviour among persons who hold these unconscious biases (Dovidio & Gaertner, 2004). Studies that have investigated the health implications (in obesity) of perceived marginalisation have concluded that it can lead to reluctance to engage with healthcare services leading to further weight gain (Drury and Louis, 2002). This results in a potential dichotomy whereby it could be considered both unethical to classify an individual's personal factors and also wrong not to. This may in part explain the reluctance of the participants in this study to develop, capture and operationalise the personal factor component of the tools, whilst espousing the significance of personal factors within the clinical reasoning process.

Whilst acknowledging the potential risks of classifying the personal factors component of the ICF Muller and Geyh (2014) advocated its development and suggested the risk can be mitigated through the responsible use of this information. Due to the large number of users (across many varied organisations with differing cultures) this would require the exercise of high levels of responsibility. Not only would there need to be universal responsibility on management of the information, but also the overall use of the personal factors would require common agreement. Stuber et al (2008) noted that some observers advocated an alternative perspective on stigma in public health, focusing on its potential benefits. They suggested that stigma can be a useful tool of social control by discouraging unhealthy behaviours. The linking of health behaviours and access to welfare and benefits have been proposed by a number of organisations within the United Kingdom (UK) (Huffington Post, 2013) indicating that this use of stigma maybe being considered within the public sector.

Personal factors therefore appear to be both essential and potentially perilous. It maybe that the risk lies in the approach and management of these factors. If the personal factors are developed and applied in the same manner as the other components of the ICF e.g. classified and coded, then these dangers are likely to remain or grow. If on the other hand, they are used as a universal language rather than a method of measurement, the risks and concerns may be reduced. This variation in the application of the ICF may be seen as a weakness, or alternatively reflective of the differing nature of information across the BPS range e.g. the need to capture and use subjective information.

2.3.8.5 Issues of measurement: summary.

The ‘promotion of health’ as opposed to the ‘reduction of disease’ can pose methodological difficulties. The ICF’s predecessor (the ICIDH) was primarily concerned with the ‘consequences of disease’, whereas the ICF is interested in the classification of ‘components of health’ (WHO, 2001). This passage from disease to health (incorporating both environmental and personal factors) challenges the orthodox epistemology and previous measurement protocols. Measurement of the participation component (of the ICF) is contested (due to the conflict between subjective report and objective measurement), although it is in the ‘Functioning and Disability’ part of the framework. This section incorporates the bio-medical elements of health and therefore would supposedly be aligned to a positivistic position using objective measurement. Presumably this cannot be the case for the contextual factors. Working from the WHO’s definition of health being ‘a state of complete physical, mental and social well-being’, (WHO 1948) elements of an individual’s psychological, personal and social world need to be captured. As Bradby (2012) observed, the social model of health presents a sustained challenge to the reductionist view of health as an absence of disease. Whilst challenging a bio-medical view it also creates practical problems for those wishing to adhere to the social model. A review of the literature suggests that whilst the relationship between an individual’s context and health is established, the interplay between these factors is not fully understood (Bradby, 2012), and methods to measure these elements are inconsistent and underdeveloped (Reinhardt et al., 2011).

A review of existing methods measuring environmental factors (by researchers associated with the development of the ICF) acknowledged that there are numerous different scientific approaches to the study and measurement of environmental factors. These range from experimental manipulation of the environment to questionnaires on subjective experiences of environmental barriers. They concluded that a different set of rules is needed in the development of more thoughtful and consistent scientific approaches to the study of environmental factors (Reinhardt et al., 2011). A paper contemplating the theoretical foundations for measuring environmental factors advised against using the ICF as a theoretical base for instrument development. It advocated a need to approach measurement through the use of advanced psychometric measurement, e-technologies and data visualisation methods in order to quantify, document, and communicate the dynamic interrelationship between environmental factors and participation (Magasi et al., 2015).

A similar process, with corresponding conclusions, was applied to personal factors (again, by prominent ICF investigators) to ascertain how they are currently classified (Muller and Geyh, 2014). These authors recognised twelve common content areas around personal factors including: socio-demographics, behaviour and lifestyle, cognitive psychological, social relationships, experiences and biography, coping, emotions, satisfaction, other health conditions, biological/ physiological, personality, and motives/motivation, suggesting that these may become the basis for further development of the ICF.

Concerns around the current measurement were expressed by Simeonsson and colleagues (2014). The investigators referred to personal factors as 'Pandora's box' noting that they are not defined, have no taxonomy of codes, have no explicit purpose stated for their use and no guidelines for application. They suggested that despite these weaknesses they are being applied as part of the classifications potentially leading to acceptance by default, expansion with idiosyncratic exemplars and, (echoing comments by Muller and Geyh, 2014), potential misuse in documenting personal attributes, including 'blaming the victim'. They concluded by recommending urgent revision to determine if there is in fact need for personal factors in the ICF.

Despite these stringent criticisms, the recommendations from Muller and Geyh's (2014) and Reinhardt et al.'s (2011) reviews suggest that the WHO believes that contextual factors (and their relationship to disability and health) can eventually be consistently and scientifically measured and improved within the ICF.

In addition to these limitations there remains controversy as to how these elements act on a societal or individual basis. This complexity has a direct effect on the project as clinicians are expected to address contextual factors under these emergent conditions. As Mooney and Fohtung (2008) commented, if reliance still has to be placed on some crude proxies for measuring (poverty and inequality), an understanding of the complexities of the underlying relationships between these measures and health means interpretation of results will tend to be less informed and more cautious. It is a moot point as to whether clinicians required to address the contextual factors have the knowledge, skills or time for informed interpretation.

2.3.9 The ICF: summary

The ICF has both passionate advocates and critics. These variances seem to reflect the opposing positions of the medical and social models of health. Some components appear to be over developed requiring simplification (through the use of core sets) whereas other are yet to be fully developed. Also the tension between the objective and subjective measurement of certain components remains an issue. Despite this confusion the ICF has been endorsed for use in clinical practice for over a decade. The limited data suggests that the ICF is being used partially and inconsistently across a range of services although there is little empirical evidence around the process and outcomes of its application.

2.4 Challenges of implementing person-centred practice in healthcare.

2.4.1 Introduction.

This section will briefly describe the theoretical background and development of person-centred practice (PCP). It will then explore the 5 interlinked themes identified through the literature review. For consistency (across the cited papers) staff will be referred to as clinicians and those receiving healthcare interventions, patients. PCP is used as a generic term covering phrases such as ‘client’ and ‘patient’ centred.

2.4.2 Person- centred practice: a brief history.

Person-centred practice (PCP) derived from the person centred approach of Carl Rogers (Leplege et al., 2007). The underlying theory concerned the relationship between an individual’s freedom and autonomy against a background of what are seen as repressive societal institutions, such as healthcare organisations (McDonnell 2016). The principles of the approach are that individuals possess extensive intrinsic qualities and with the correct enabling environment they can find their own remedies to difficulties (Leplege et al., 2007). Essentially, Rogers sought to correct a situation in which ‘generally the group wins out at the expense of the individual’ (O’Hara, 2010, p.

117). This encapsulates the underlying principle of the person centred theory that postulates that the resultant repression leads to anxiety and inauthentic living and ultimately psychological distress (McDonnell 2016).

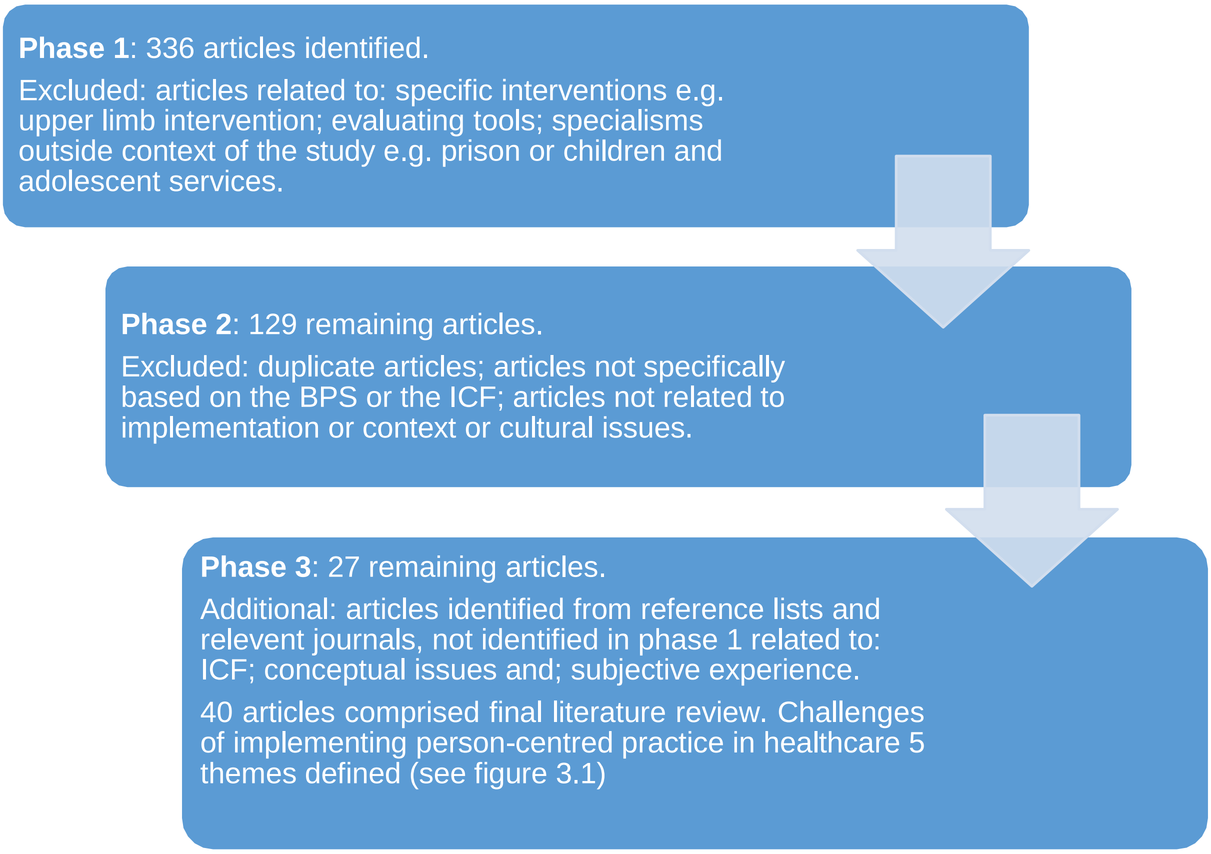
PCP has been part of healthcare reforms since the 1990s (Jacobs 2015) and has been defined as, ‘a standing or status bestowed upon one human being by others in the context of relationship’ (Kitwood, 1997 p8). This description emphasises a key characteristic of person-centred care – that it requires a relationship which is experienced as meaningful and empowering to the persons involved. More recently, ‘care’ has evolved to include learning and working relationships, resulting in the concept of person-centred practice and person-centred cultures (Jacobs 2015).

Innes, Macpherson and McCabe, (2006) stated that whilst person-centred care is not a term that is used consistently across the literature it has a number of common elements describing both its outcomes and characteristics. They suggested that it includes taking into account the patients' needs and views and working effectively with family members through the development of supportive relationships with the patient and family members. They acknowledged that this can be challenging and often requires mediation between contradictory views (Innes, Macpherson McCabe, 2006). Ahmad et al., (2014) considered person-centredness as being founded on compassion, dignity and respect, shared decision making and collective patient and public involvement echoing Jacobs (2015) description of PCPs and their development as being based on participation, openness, engagement and shared learning. She suggested that this perspective is transformative in changing the dominant healthcare culture.

The contextual nature of PCP was acknowledged by the WHO when they proposed that there is no one model of people centred services. Jacobs (2015) also suggested that the distinctiveness of practice context results in there never being a single or final definition of person-centred practice. The context and culture of practice and development of person-centredness are intimately related and discussed in subsequent sections. The next section will describe the search strategies used for the literature review and subsequent sections explore the themes generated through the literature review.

2.4.3 Search strategies

A literature search was undertaken (appendix B). The search terms concentrated primarily on PCP and its application in rehabilitation. The rationale for this decision was that the study was based within two rehabilitation teams, the body of literature for PCP across all healthcare disciplines is large and that there is a distinct commentary around PCP's application in rehabilitation which requires exposure in relation to the study. The following databases were searched: AMED, Cinahl Plus, Medline, PubMed Central, Social Policy and Practice and PsycINFO. Only articles written in the English language and published between 2001 (when the ICF was first endorsed by the World Health Organisation) and 2017 were included. Searching of reference lists in the following relevant journals: International Practice Development Journal; Disability and Rehabilitation; Clinical Rehabilitation; Scandinavian Journal of Occupational Therapy and documents published by independent organisations e.g. The Health Foundation was also undertaken. The result of the search strategy is outlined in Table 2.2



Phase 1: 336 articles identified.

Excluded: articles related to: specific interventions e.g. upper limb intervention; evaluating tools; specialisms outside context of the study e.g. prison or children and adolescent services.

Phase 2: 129 remaining articles.

Excluded: duplicate articles; articles not specifically based on the BPS or the ICF; articles not related to implementation or context or cultural issues.

Phase 3: 27 remaining articles.

Additional: articles identified from reference lists and relevent journals, not identified in phase 1 related to: ICF; conceptual issues and; subjective experience.

40 articles comprised final literature review. Challenges of implementing person-centred practice in healthcare 5 themes defined (see figure 3.1)

Table 2.2: Outcome of the literature search strategy.

The five identified themes for the literature review are presented as separate sub-themes. In reality they are interlinked, resulting in a number of papers being cited in more than one sub-themes.

Figure 2.2 Illustrates in the inter-relationship between the themes with theoretical and conceptual issues central due to their profound influence on all the other factors.

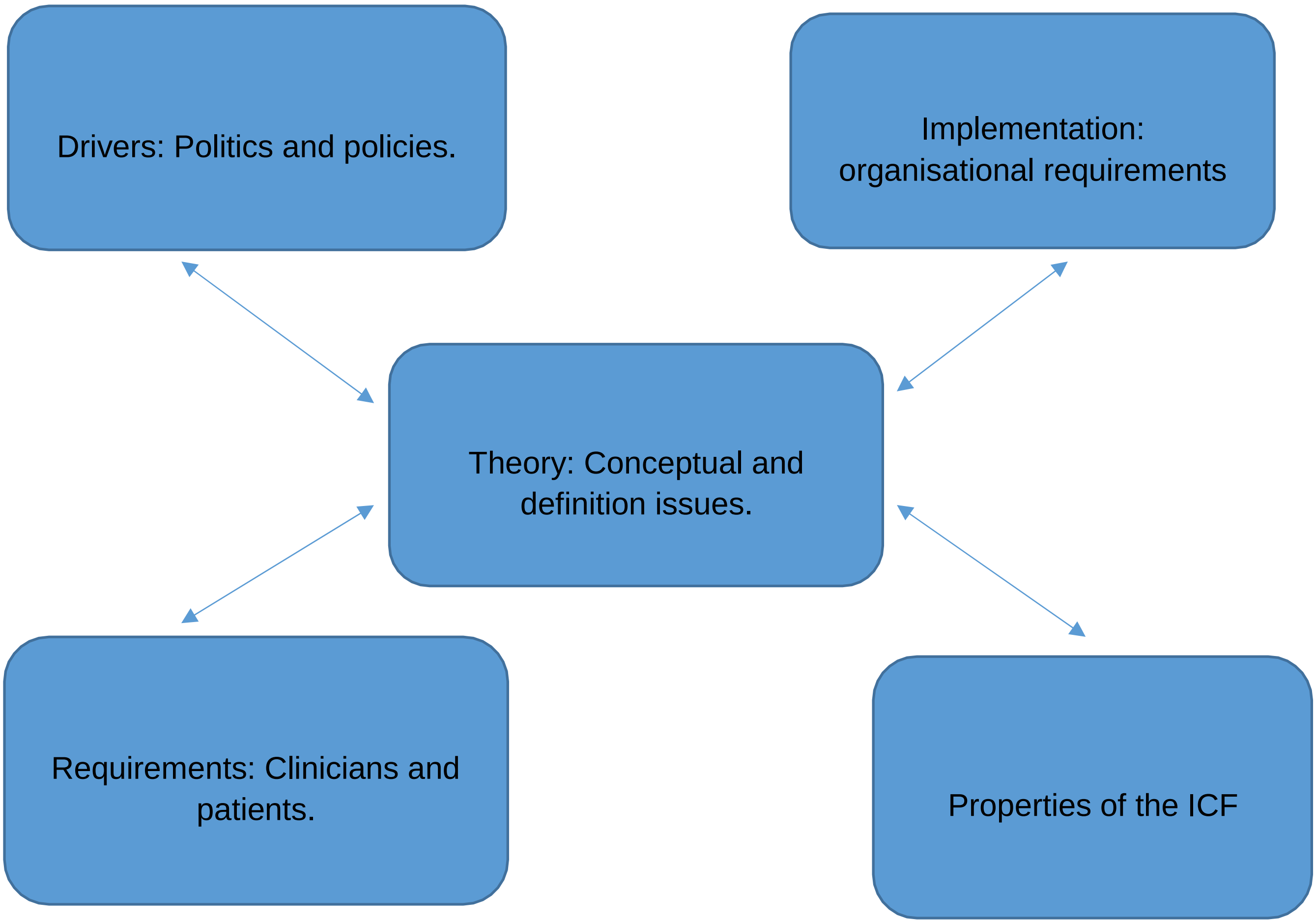


Figure 2.2 Inter-relationship between the factors influencing person-centred practice in rehabilitation.

2.4.4 The need for person- centred practice.

A number of factors have coincided to bring PCP to the fore. Within the developed world the profile of ill-health has changed from one of primarily infectious disease to chronic conditions and changes in demographics have resulted in people living longer with chronic, co-morbidities (WHO, 2015). These changes alongside technological-medical developments and increasingly complex healthcare needs and escalating costs (WHO, 2015) have resulted in calls for significant reforms to the way healthcare is delivered (Jacobs 2015). These tensions in healthcare have resulted in well publicised failures that have called into question the culture of healthcare organisations (Francis, 2013). Jacobs (2015) suggested that these factors mean that the challenge to healthcare is now to provide high quality care with fewer resources. She advocates that this can be achieved through the development of PCP. Other commentators have proposed that PCP can be instrumental in resolving some of these contemporary healthcare problems. Manley et al. (2011) suggested that these failings need to be addressed through the transforming of the workplace culture and that this can be achieved through the development of PCP.

Calls for the adoption of PCP have not been restricted to individual researchers. National, independent and governmental (Ahmad et al., 2014; Department of Health, 2010) as well as supra national (WHO, 2015) organisations have recognised the need to transform healthcare along person-centred lines. The Health Foundation advocated the development of healthcare services that are understanding and responsive to peoples' individual abilities and attributes (Ahmad et al., 2014), whilst the Department of Health (2010) outlined a personalisation agenda to ensure the needs of patients are realised. The WHO's (2015) global strategy on people-centred and integrated health services called for a fundamental shift in the way health services are funded, managed and delivered based on the principles of PCP to address issues such as: changing health care burden, common preventable causes of ill health and the fragmentation of health into often, competing services (WHO, 2015).

Whilst there appears to be a near universal call for the expansion of PCP, commentators have suggested that organisations' aspirations of person-centredness may be at odds with reality citing the finding of reports into substandard care in UK hospitals (Slater, McCance and McCormack 2015). This warning highlights one of the fundamental issues influencing the development of PCP, namely the culture and context of practice. These issues will be considered in the next section.

2.5 Person-centred practice and implementation in healthcare.

2.5.1 Context and culture.

The significance of context and culture on the development and continuation of PCP is fundamental. McCormack et al. (2011) suggested that contextual factors such as organisational culture and the learning and care environment pose the greatest challenge to person-centredness and person-centred cultures. Manley et al., (2011 p2) noted the adverse influence of ‘toxic’ cultures on patient care, suggesting that an understanding of workplace culture and ways to improve it are urgently required from policy makers. This need for urgency is underscored by Beckett et al’s., (2013) observations on the culture within mental health units which found past efforts to improve the culture has limited, with ineffective leadership staff resistance and unresponsive organisational structures identified as common barriers to change. The adverse influence of organisational culture was also found in Slater, McCance and McCormack’s (2015) study of PCP in acute hospitals. The researchers identified (a lack of) ‘supportive organisational systems’ as the primary barrier to PCP whilst, ‘being committed to the job’ proved the major facilitator. These findings suggest a potential discrepancy between contextual (organisation) and personal (commitment) values that may reflect a differing culture between the organisations and staff.

The reason for this focus on the culture of practice context is captured by McCormack et al. (2015) when they asserted that, ‘person-centredness can only happen if there is a person-centred culture in place in care settings that enables staff to experience person-centredness and work in a person centred way’ (p.3). This statement illustrates the holistic nature of PCP whereby the formation of PCP is as dependent on the empowerment of staff as that of patients. This poses some difficulties. Cultural change is subtle and not amenable to transient solutions being a long-term continuous process (McCormack and McCance, 2017), which requires fundamental changes in attitudes and patterns of behaviour (Manley et al., 2011). Additionally, in the past organisational culture has been viewed as a single entity whereas in reality multiple cultures exist (within organisations) usually associated with different teams or geographical locations (Manley et al., 2011). This is at odds with much of the culture of the NHS that is concerned with immediate measurable outcomes (Allcock et al., 2015) and considers all healthcare settings as uniform (Manley et al., 2011). Therefore whilst there is a growing recognition that for effective high quality care to be delivered healthcare services need to address workplace culture, the complexity of the task appears challenging for the current NHS. Eaton, Roberts and Turner (2015) in their review of PCP for long-term conditions proposed that this challenge is exacerbated by the NHS being geared around the provision of acute care and identified the need for comprehensive reform of the service through a ‘whole sytems approach’ (p1). Allcock and colleagues (2015) reported that staff and managers have insufficient ‘headspace’ to address complex issues such as workplace culture, illustrating the extent of the challenge. Additionally, there are limited tools available to guide clinical leaders through cultural change at the local level (Manley et al., 2011). And even if these exist cultural change is dependent on individual contexts and therefore these would be of limited worth (McCormack and McCance, 2017). These assertions suggest that whilst there is a growing consensus on the need to address the issues of workplace culture (thereby promoting PCP) throughout the NHS, the structure, resources, skills, tools and consensus are currently insufficient to address this complex and time consuming endeavour.

Many of these contextual barriers were present in a study reported by Jackson and Webster (2011) in a paper entitled ‘swimming against the tide’. The authors described the process of developing a practice development partnership to generate organisational transformation within organisations undergoing profound change. Many of the emotions engendered by this process echo those of the current study’s participants (who were exposed to similar organisational changes) including the feeling that the (culture of the) study, ‘goes against the tide’. Whilst superficially Jackson and Webster’s (2011) experience would appear to confirm the enormity of (cultural) change within adverse contexts, their conclusion revealed positive practical change through the practice development process. The next section will explore some of the ways in which PCP (and cultural change) has been achieved in healthcare settings.

2.5.2 Methodologies for developing person centred cultures and practice.

The scope of this review does not allow for a comprehensive examination of studies implementing PCP within healthcare. Rather, it will report on papers focusing on the methodologies and common characteristics associated with the successful development of person centred cultures and examine the similarities between these and the approach used in this study, action research.

Practice development has close associations with the development of PCP and has been described as a methodology for developing person centred cultures (Manley, 2017). She described the evolution of practice development from the creation of an explicit methodology in the late 1990s (aligned to critical social science) through to more recent advancements whereby its complexity is recognised and the need acknowledged to consider it as a research intervention.

In many of its principles and characteristics it mirrors action research. Both approaches describe themselves as collaborative, inclusive and participatory (Manley et al., 2011; Reason and Bradbury, 2006) and endeavour to change practice and knowledge at the micro (workplace) level (Manley et al., 2011; Reason and Bradbury, 2006) and share a theoretical underpinning of critical inquiry (Manley (2017; Crotty, 2003). These similarities have resulted in the concurrent use of the approaches in a number of projects (Dewing and Traynor, 2005) and the sharing of methods e.g. appreciative dialogue, across the two practices (Dewar and Sharp, 2013). Whilst practice development is the dominant approach adopted within nurse led projects, appreciative and collaborative action research has also been used to explore the implementation of PCP (Dewar, McBride and Sharp 2017; Jensen et al., 2016).

Approaches for developing person centred cultures and practice have many shared characteristics, such as: human flourishing and capacity building, practice level change, shared learning, the use and development of evidence, evaluation processes that are participative and cycles of reflective learning and action, (Manley et al., 2011; Reason and Bradbury, 2006; McCormack et al., 2010). Whilst the terminology may differ many of the values and concepts of practice development and action research are shared and considered applicable for the development of person centred cultural and practice. The next section will consider a number of studies using these approaches to examine the processes and outcomes of developing PCP.

2.5.3 The impact of participatory approaches on the development of person-centred cultures and practices.

Four studies employing practice development or action research approaches will be reviewed to elucidate the process and outcomes of developing person-centred cultures and practices in healthcare (McCormack et al., 2010; McCance et al. 2013; Beckett et al., 2013; Jensen et al., 2016).

McCormack and colleagues (2010) presented the nursing outcomes from the evaluation of a national programme that focused on the development of person-centred practice in residential services for older people using an emancipatory practice development framework. The programme was based on the person centred practice theoretical framework and the emancipatory practice development methodological framework. The first was used to provide the basis for decision making around practice change, whilst the second was applied to inform and guide facilitation and evaluation of the changes. The intervention consisted of an initial awareness campaign open to all staff, the recruitment of internal facilitators and establishment of development programme groups. These groups then met for a skills development day every 6 weeks which included active learning and reflective activities. Additionally, the internal facilitators were provided with training and supervision from the university facilitators.

Outcomes from this process resulted in a more person-centred environment with adequate staffing, increased empowerment and enhanced staff relationships. Staff members' intention to leave and the organisational commitment also changed. Slater and McCormack, (2007) reported these two factors to have an inverse relationship whereby a decrease in intention to leave demonstrates an increase in organisational commitment. The authors noted that staff reported greater satisfaction with their general conditions regardless of the fact that pay and posts were frozen. They attributed this change to the increased investment the staff felt they were being given through the practice development programme.

From the perspective of care over the two year programme, participants' focus shifted from providing more technical interventions to a greater emphasis on intimacy and the involvement of patients in their care. Whilst generally outcomes were positive, the authors noted in some settings less improvement was made in staff relations. In these units there was evidence of poor support for the developments from managers resulting in each change being challenged and undermined. Again this illustrates the importance of a shared culture (and commitment) throughout organisations to create PCP.

McCance et al., (2013) reported on a practice development programme across a large health and social care organisation, undertaken at a time of unprecedented change. It aimed to enable nursing teams to explore the concept of person-centredness within their own clinical setting, through a series of workshops and ongoing support. The workshops focused on themes such as: understanding of person-centredness, developing a shared vision, reflecting on the quality of care, developing practice and celebrating success. Activities within the workshops were based on Garbett and McCormack (2002) practice development model. Many of the findings from his programme reflect those of the ICF study illustrating the conflicting priorities between organisational demands and PCP. The authors reported greater levels of engagement, characterised by strengthened relationships and ways of working. However, these improvements were challenged by participants' feelings of being pressurised, due to limited staffing and resources, leading to reduced confidence and momentum to generate and sustain PCP.

In contrast to the previous large studies Jensen et al., (2016) undertook a project in a small six bedded unit for people with severe dementia. The aim was twofold to: develop knowledge of how nurses promote independence at mealtimes for persons with severe dementia and; explore their practice from a person-centred perspective. The authors used a collaborative action research approach. Change was generated through a (daily) cyclical process of planning (in the morning conferences) and action (during mealtime) and evaluation (written narratives and conferences). A number of outcomes resulted from this process. From a care perspective three themes emerged: the importance of individual preferences, more sophisticated and individualised support provided e.g. eating at an individual's own pace and choices provided as to whether a person wishes to eat communally or alone. In addition to these tangible improvement in care the nurses reported an increased awareness that persons with severe dementia often had more capabilities than they were aware of and the significance of their (the nurses) responses on the behaviour of the person with dementia. These findings indicate outcomes that not only enhance PCP but also reflect a growing cultural change amongst the nursing staff.

Beckett et al's., (2013) practice development programme took place in a mental health inpatient setting. The aim of the project was to build on recent improvements in practice through practice development and action research. This was undertaken through a series of 'away days' focusing on positives, concerns, questions and actions (day 1), values and ward culture (day 2) and developing the action plan (day 3). Small groups elected to continue working on these and feedback on the subsequent away day. The authors reported the facilitation of cultural change and positive team working through practice development and transformational leadership. Whilst they acknowledged that this is a continuing process they were unable to provide tangible evidence to how this cultural change had impacted on practice.

Although the cited studies are varied in their settings, use different methodologies (i.e. practice development and action research) and report diverse outcomes they have a number of common features. All were using collaborative, inclusive and participatory approaches not only to change discrete practice but to move from ‘moments’ to cultures of person-centredness (McCormack and McCance, 2010) through the use of methods such as active learning and reflection. Whilst this section has focused on the development of person-centredness in nursing the next will consider the literature regarding its implementation in rehabilitation.

2.6 Person-centred practice and rehabilitation: conceptual issues.

Whilst person-centred practice is discussed in the rehabilitation literature (Leplege et al., 2007; Macleod and McPherson, 2007) its theoretical basis and application is less certain (Papadimitriou and Cott, 2015). This section will examine the conceptual perspectives of PCP within rehabilitation.

The earlier cited frameworks developed through nursing are neither replicated nor used within rehabilitation. Even the term person-centred practice is not universal with different rehabilitation researchers referring to the concept as patient-centred (Rosewilliam et al 2011) client-centred (Papadimitriou and Cott, 2015), or specifically person-centred occupational practice (Brown, 2013). This linguistic confusion may reflect: a difference between the notion of PCP in nursing and rehabilitation, based on their different philosophies and practices and disparity regarding understanding the theory underpinning PCP within rehabilitation.

Leplege and colleagues (2007) examined the conceptual and historical perspectives of person-centredness in relation to rehabilitation. They concluded their paper by suggesting that ‘rehabilitation might paradoxically get a better sense of what it should be and should do, by incorporating an operational list of the key features of person-centredness – but at the same time refrain from using the term person-centredness’ (p1565). Their reasoning for this recommendation is that person-centredness is a multi-dimensional concept, with its origins outside rehabilitation. The authors suggested four discrete meanings of person-centredness pertinent to rehabilitation: to address the person’s biopsychosocial (BPS) needs; to address everyday difficulties that are relevant to the person; to consider the person as an empowered expert and; to respect the person ‘behind’ the impairment or the disease. They further confounded the issue by suggesting that all of these meanings can be interpreted in different ways depending on an individual’s worldview e.g. from a social model of disability. They proposed that the heterogeneous nature of person-centredness (and its adoption by rehabilitation from other disciplines) may explain some of the problems experienced in introducing PCP into rehabilitation. An alternative interpretation is that concepts (such as the BPS) are often adopted and developed from other disciplines. Therefore Leplege and colleagues’ opinion may have reflected the under-development of PCP in rehabilitation, rather than insurmountable difficulties with a unifying framework.

Subsequent to 2007, models of PCP have been developed that have delineated the underpinning principles of PCP (McCormack and McCance, 2017). They acknowledge the heterogeneity of the meaning of ‘person’ and recognise that differing perspectives influence the development of theory and practice (McCormack and McCance, 2017). Perhaps therefore, rather than rejecting the term ‘person-centredness’ rehabilitation should find its own theoretical (and practical) perspective of PCP.

Central to Leplege’s argument was the incompatibility between the different interpretations of the four meanings of person-centredness pertinent to rehabilitation. McCormack and McCance’s (2017) exploration of the concept of self identifies three broad notions of the term: personal identity; physical and mental attributes and social personas. When mapping the interpretations of person-centredness identified by Leplege and colleagues against McCormack and McCances’ (2017) categorisations, they can all be integrated into the concept. This suggests that the concerns regarding the heterogeneity of person-centredness (within rehabilitation) may be unfounded.

Papadimitriou and Cott’s (2015) examination of client- centred practice in in-patient rehabilitation illustrated that PCP can be achieved through the mechanism of MDT working, suggesting that whereas the discrete properties of PCP identified by Leplege et al (2007) initially look contradictory, through the development of a culture of PCP, these disparate issues can be integrated into a core ethos.

Finally, whilst Leplege and colleagues’ (2007) recommendation to incorporate key features of PCP into rehabilitation appeared pragmatic it contains inherent risks.

Integrating components of PCP into rehabilitation without an underpinning philosophy risks exposing PCP to becoming piecemeal and only to be considered for distinct areas of practice (reflecting McCormack and McCances', 'moments' of PCP), as opposed to generating an overarching cultural approach to practice.

Whilst this statement appears idealistic the generation of a culture of PCP may mirror Sadler and Hulgus's (1990) assertion that adoption of the BPS model requires a process of 'becoming' (biopsychosocial). In this case incorporating PCP into rehabilitation may require the same recognition that it is a continuum and therefore adoption is a lengthy ongoing process of personal and cultural change rather than the operationalisation of discrete activities.

Gzil et al, (2007) expanded on Leplege and colleagues (2007) previous examination (it shared many of the same contributors) although specifically focused on the extent of person-centredness in rehabilitation and whether this is a desirable aim. The investigators suggested that the history of rehabilitation is not a one dimensional journey from medicine to person-centredness and that whilst the adoption of many of the principles of person-centredness have enriched rehabilitation the theoretical inconsistencies and methodological difficulties associated with person-centredness still remain. They also suggested that central aspects of PCP, such as autonomy, are unrealistic because rehabilitation takes place in specific settings leaving many components and aspects of autonomy out of reach of clinical intervention. These statements once again questioned the reality of basing rehabilitation on PCP principles, although recognised the benefits PCP values have bought to the development of rehabilitation.

Gzil and colleagues (2007) do not define PCP for their analysis and conflate it with the ICF and the social model of disability. Additionally, they focus on operationalising PCP within rehabilitation by mapping their understanding of it to contemporary practice. Similar to the limitations of Leplege et al's (2007) analysis, this focuses on whether discrete activities can be included in one theory, rather than considering the values and principles that underpin PCP. For example, their suggestion that autonomy is out of reach of clinical (rehabilitation) intervention is accurate on a surface level when considered from a relational stance, the culture and approach of clinicians can be instrumental in nurturing autonomy in a patient requiring rehabilitation (Whalley Hammell, 2007).

In reality, both commentators and their colleagues may have been accurate in their observations that PCP was erratically applied within rehabilitation, although their conclusion that this was due to theoretical inconsistencies maybe erroneous. An alternative explanation could be that it resulted from the under-development of a rehabilitation model (of PCP) based around agreed principles which reflect the particular values and roles of rehabilitation clinicians.

McPherson and Siegert, (2007) focused on the difficulties associated with measuring components of PCP, suggesting that one measure capturing all aspects of PCP is unrealistic. These sentiments were more recently repeated (Papadimitriou and Cott, 2015), which suggests they remain unresolved.

Issues concerning measurement were expanded on by Turner Stokes, (2009) who examined the need to effectively measure components of PCP to ensure that NHS resources are allocated to rehabilitation. Her review of outcome measures suggested that some elements of PCP in rehabilitation can be measured, although these are by no means comprehensive. Cott, Wiles and Devitt, (2007) advocated that rehabilitation should move to a chronic disease management model that measures outcomes which are meaningful to clients, as opposed to the assumed needs or outcomes as defined by clinicians. Presumably, if this development occurred many of the measures discussed by Turner Stokes, (2009) would require significant revision. More recently Wade (2015) called for the adoption of a BPS, patient-centred model of rehabilitation, similar to that being advocated by Cott and colleagues (2007). These appeals for models of rehabilitation aligned to the principles of PCP continue the debate between those who would wish to see rehabilitation adopting PCP and those who caution that conceptually PCP is inconsistent with some aspects of rehabilitative practice.

Finally, if the underlying concepts and theories of rehabilitation are contested regarding the adoption of PCP, there also remains the issue of practice variations between rehabilitation and PCP. Macleod and Mcpherson (2007) focused on two such areas namely, care and compassion. The authors suggested that within rehabilitation (as opposed to nursing) the term ‘care’ is not universally endorsed due to its associations with paternalistic language and therefore its place within rehabilitation required examination. They suggested that the very nature of care is confused between curing and healing, whereby the first is achieved through external, biomedical intervention and the second intrinsic, biopsychosocial (BPS) adaptation (built upon a sound relationship with the rehabilitation clinician). The authors contended that as rehabilitation is primarily concerned with recovery and adjustment of personhood then it deals with suffering. This they suggest is more closely associated with healing than curing and therefore requires ‘care’ through the understanding of an individual’s suffering. This they suggested is juxtaposed to modern medicine that views care in terms of technical expertise, rather than positive relationships.

A subtle difference between the focus of care in acute nursing and rehabilitation was implied by the authors’ suggestion that care for acutely ill people tends to focus on immediate needs e.g. medication and pain management, whereas in rehabilitation this focus shifts to providing security and restoring a sense of control. This shifting focus of care is referred to by Dean and Ballinger, (2012) who stated that, ‘(rehabilitation) services must (care) in a way that prepares the person for life outside hospital’ (p 154). Therefore the nature of care and the skills and knowledge required to provide it may differ between nursing and rehabilitation. This, maybe generates another conceptual difference between the implementation of PCP within rehabilitation and nursing, further accentuating the need for rehabilitation to develop its own models of PCP.

Macleod and Mcpherson (2007) concluded that rehabilitation should place care central to its practice in order to truly understand an individual’s personhood. Therefore in many ways care equates to an increased awareness of the individual’s context, especially their personal factors and the need for intimacy, authenticity and real human connections between clinicians and patients. This echoes the principles of PCP espoused by the nursing frameworks. They suggested that this relational focus can lead to more effective rehabilitation through the developing of trust between the clinician and patient resulting in them taking the risk to say what they really need. Studies examining the relational aspect of rehabilitation will be further explored in section 2.8.

The cited papers provide an overview of the commentary surrounding PCP in rehabilitation. Whilst most investigators recognise the value of PCP and its contribution to rehabilitation, its future adoption is contested. Some commentators advocate rehabilitation being based on PCP principles, whilst others caution of conceptual inconsistencies between the two as well as difficulties implementing PCP in practice. A compromise position advocated by many is that PCP should not be adopted wholescale but those elements pertinent to rehabilitation be identified and incorporated into practice. This standpoint is not straightforward as it requires consensus over the nature of PCP in order to identify those aspects to integrate into rehabilitation and risks further exacerbating theoretical inconsistencies by the limited adoption of a model. Additionally, if person-centredness requires a conceptual shift towards a culture of PCP (McCormack and McCance, 2017) then partial adherence (outside a theoretical structure) is unlikely to achieve the desired result. The next section will examine these issues from the perspective of clinicians.

2.7 Person-centred practice and clinicians perspectives.

Whilst not universally applied PCP is considered a central concept in rehabilitation (Papadimitriou and Cott, 2015).The question remains whether this is more rhetoric than reality (McPherson and Siegert, 2007). This section will review clinicians (primarily allied health professionals) perspectives regarding PCP.

Papadimitriou and Cott (2015) explored the relationship between person-centredness and team work in inpatient rehabilitation. Their primary objective was to understand the characteristics of the organisation, multi-disciplinary rehabilitation team, staff, clients and families associated with person-centredness. The study findings reflect many reported previously in nursing focused studies on PCP that delivery is dependent on a combination of personal, relational and organisational factors. During the analysis of the data the researchers noticed that participants used the terms ‘client centredness’ and ‘team work’ synonymously, suggesting an association between successful teamwork and effective PCP. Findings pertinent to the ICF study include the importance of physical proximity and informal communication within the teams and influence of the organisational culture on PCP. The authors concluded by noting that person-centredness is not a ‘one size fits all’ process as it is influenced by contextual factors such as organisational policies, team characteristics and culture and that ultimately PCP is an outcome of team performance. An earlier study specifically investigating occupational therapists’ perception of how teamwork in community mental health influenced PCP reported similar multi-level effects (Sumsion and

Lencucha, 2008). These investigators interviewed 12 occupational therapists and through thematic analysis of the data found that team unity, whether clinicians (and patients and families) shared similar perspectives and organisational factors such as workload could either favourably or adversely influence PCP.

Studies examining individual clinicians or specific disciplines perceptions of PCP have revealed a range of practices reflecting the divergences reported by rehabilitation researchers. Njelesani et al (2015) used a critical perspective and empirical cases to examine occupational possibilities and PCP in occupational therapy. They defined occupational possibilities as the ways and types of doing that come to be viewed as ideal and possible with a specific sociohistorical context, and that come to be promoted and made available within that context. Suggesting that they are influenced by what is considered appropriate for an individual’s age, gender and social class. This, the authors proposed, undermines PCP because patients are guided towards certain activities that are considered orthodox by clinicians such as self-care, productivity, and leisure. Njelesani and colleagues (2015) suggested that this limitation can be resolved by more use of reflexive practice. This raises a number of issues; the relative homogeneity of occupational therapists and the reality of pursuing all potential occupations. Ylvisaker and Feeney (2000) in their study of in-patient traumatic brain injury rehabilitation suggested that young male patients with less education attainment have reduced outcomes due to their cultural differences from the majority of therapists. They suggested that these patients consider rehabilitation as a process of turning them from ‘Dobermans into poodles’, and therefore undermining their intrinsic culture, through the choices that are selected by their therapists. These sentiments are echoed by Rushworth (2015) who noted the disparity between the patients’ and clinicians’ backgrounds in his rehabilitation unit. Therefore if occupational possibilities are mediated by the context then ideally the clinicians would need to reflect a broader mix of the population and through reflexive practice become more aware of this issue. A further consideration highlighted by Turner-Stokes (2009) is that rehabilitation also needs to reflect the priorities and politics of healthcare and that these priorities often focus on occupations that reduce reliance on social care rather than reflect what is most meaningful to the individual. Again these issues stress the difficulties between the theory and practice of person-centredness.

Critical reflection was also urged by Whalley Hammell (2013) in her review of PCP in occupational therapy. She argued that whilst the profession views itself as person-centred in reality this assumption is not supported by evidence in the areas of practice, evaluation, theoretical foundations or education. She suggested that until patients are central to all aspects of occupational therapy then any assertions of person-centredness are meaningless. She suggested that the development of person-centredness may be undermined by both individual clinicians and the professions wish for prestige and to assert and maintain power. These claims reflect those of Macleod and Mcpherson (2007), who suggested that the socialisation of therapists is focused on maintaining a 'professional' detachment to encourage objectivity (and assert power) that undermines the ability to practice PCP.

Whilst Whalley Hammell's (2013) assertions appear exacting, the evidence cited and the paucity of critical reflection outlined would question the extent to which person-centredness is fundamental to the profession. Whilst critical of the institutions of the profession she did recognise that individual therapists adhere to PCP principles through their attempts to realign power and ensure that their interventions are relevant to patients' priorities and needs.

Physiotherapy has also examined its relationship to PCP. Mudge et al (2014) scrutinised physiotherapist comfort with PCP. The genesis of the study originated following the implementation of a PCP based physiotherapy intervention, which resulted in the therapists expressing uneasiness with aspects of PCP. The researchers then reflected on their perspectives of PCP using an autoethnographic methodology. Similar to Whalley Hammell's (2013) review the investigators critically reviewed the profession's relationship with PCP (through their own reflections) concluding that many aspects of the physiotherapy are detached from person- centredness. They suggested that the discrepancy came from the underlying paradigm of physiotherapy, based on a curative biomechanical perspective, which leads therapists to consider themselves as the expert in the patient/ clinician relationship with the responsibility to fix problems. They proposed that this relational basis results in physiotherapists being poorly equipped to manage the non-physical aspects of person-centred rehabilitation such as expectations, hope and the relinquishing of power. The methodology used by the researchers challenged them to reflect on these issues, resulting in the recommendation that physiotherapy adopt a more active communication style which gains the patient’s perspective and to critically reflect on current practice and prompt the theory development required to move the profession towards a greater degree of understanding about principles of person-centred practice.

In summary whilst PCP is, to a greater or lesser extent, espoused by the rehabilitation professions, its practice is inconsistent. Some common issues for occupational therapy and physiotherapy account for this situation. A varying understanding of what PCP entails, limited theoretical underpinning of person-centredness within the disciplines and a paucity of critical reflection. These theoretical and perspective barriers are further compounded by political and cultural obstacles impacting on PCP within rehabilitation. The next section will investigate PCP within rehabilitation from the patients’ perspective.

2.8 Person- centred practice and patients’ experience.

As previously discussed PCP is not universally applied by rehabilitation clinicians and therefore it may be assumed that the patient’s experience also varies. One predominant theme in the literature is the discrepancy of experience between those ‘delivering’ and those ‘receiving’ PCP. Sugavanam and colleagues (2013), in their systematic review of the effects and experiences of goal setting in stroke rehabilitation, identified that clinicians reported higher levels of collaboration during goal setting than the patients. Similar discrepancies were found in Maitra and Erway’s (2006) investigation of the perception of PCP in occupational therapists and their patients. The occupational therapists’ positive responses to questions suggested they believed they were delivering PCP. In contrast, a minority of patients responded positively to the same questions and none had heard of the phrase client- centred practice.These findings indicate a discrepancy between what clinicians think they are practicing and the experience of the patients. This may be due to a number of factors such as confusion as to what PCP is, individual clinician’s variations in practice and limited reflective practice amongst therapists. Findings that expand on patients’ perception of person-centredness were reported by Cott (2004). Following a series of focus group with patients who had undergone in-patient rehabilitation the participants reported the need for better transition between hospitals and the community. The author concluded that person-centred rehabilitation encompasses much more than goal-setting and decision-making between individual patients and professionals. It should include a transition from an acute, curative model to one that supports long-term management of chronic conditions, drawing on the expertise of the patient. These findings reflect those of Dean and Ballinger (2012) who suggested that to provide PCP within rehabilitation, clinicians must be aware and respond to contextual factors outside the immediate in-patient context. Van de Velde, Devisch and De Vriendt (2016) reported similar issues following a qualitative study investigating the experience of occupational therapy for male neurological rehabilitation patients. In contrast to Cott's (2004) findings the participants reported a shift from a biomedical curative model to a psychosocial approach to prepare for long-term management of disabilities within the community. Their concern was that this change was often initiated tacitly by the clinician, rather than explicitly in partnership with the patient. The authors suggested that this formal change in focus is emotionally challenging for clinicians and that finding the correct process to achieve this transference needs to be developed. The researchers also concluded that in concert with the change in focus, a relational adjustment needs to take place from an expert on biomedical issues to a partner with regard to psycho-social adaptation. These reflections have implications for clinicians' skills, clinical reasoning and the ICF. If this constitutes the components of PCP that are important to patients then clinicians will need to draw on all the components of the ICF (including personal factors), adopt different reasoning approaches to provide successful biomedical and psychosocial interventions and possess the communicative and relational skills to successfully move from an expert to a partner. This would require significant investment from the clinician, the professions, the educators and the healthcare organisation.

Relationships were the focus of Palmadottir's (2006) study exploring clients' perceptions of the connection they formed with their occupational therapist. Twenty matched patients were interviewed and data was analysed thematically. The findings were generally positive with participants reporting rewarding relationships in the dimensions of concern, direction, fellowship, guidance and coalition that enhanced PCP. Contrastingly, there were instances of negative relational aspects around detachment and rejection that led patients to withdraw from occupational therapy activities. Of interest is the researcher's assertion that 'professional relationships are necessarily and generously unequal' and that 'the therapist is a knowledgeable expert whereas the client commonly lacks expertise in relation to his or her own disease or disability' (p395). Whilst he acknowledges that this leads to power imbalances in clinician patient relationships many commentators would challenge these assertions as inconsistent with PCP. The author's comments may reflect the ongoing discrepancy regarding the definitions and practices espoused under the term person-centred.

A number of studies have explored the relational aspects of rehabilitation as experienced by patients. Whalley Hammell (2007) carried out a meta-synthesis of studies exploring the experience of rehabilitation for people with spinal cord injuries (SCI). A number of common themes emerged from her analysis, the primary being the relationship between patients and clinicians. The author categorised the findings into positive and negative staff qualities. The positive characteristics were instrumental, resulting in enhanced self- esteem and value through being treated as a unique person rather than a rehabilitation patient. The qualities that engendered these feeling included a genuinely caring attitude, treating patients as adults, a relaxed attitude to rules and sharing personal information. These were demonstrated through characteristics such as: encouraging questioning, problem solving and independent thought; communicating respect and adopting the role of collaborator; enabling patients to take responsibility for their rehabilitation and; getting to know the patient as an individual. Contrastingly, negative staff characteristics led to patients refusing to share important information with clinicians due to a lack of trust. The qualities that led to this situation included: being superior, authoritarian, rigid and bossy; not authentically caring and delivering platitudes and; becoming angry and defensive when challenged. Other themes that emerged through the meta-analysis chimed with findings from cited studies around the need to maintain hope (Mudge et al., 2014), address the future, connect the pre and post injured person (Cott, 2004) and explore occupational possibilities (Njelesani et al., 2015). A final factor mediating relationships was the culture of the rehabilitation units which were often described as inflexible and restrictive in which the bureaucratic demands took precedence over the differing needs of individual patients. Whalley Hammell, (2007) concluded that failure to address these issues detrimentally effected patients' experience of rehabilitation and limited PCP.

Finally, Rushworth's (2015) keynote speech (to Brain Injury Australia) described his personal experience of rehabilitation post traumatic brain injury (TBI) in relation to

PCP. The entire content focused on the non-technical aspects of rehabilitation. His interest was, ‘about how indispensable the use of the imagination is in acquired disability, as is the dispensation of hope’ (p71). These reflections centred on how clinicians often varied in background and culture from their patients with TBI and the need for them to use their imagination to transplant themselves into the lives of their patients. An associated issue was explored in Liedberg, Bjork and Hensing’s (2010) study investigating occupational therapists’ perception of gender. The authors collected data via focus groups from 17 occupational therapists and students. The researchers found that there was limited explicit awareness of gender from clinicians although it did influence discussion regarding activities and participation along traditional gendered lines, therefore prejudging occupational preferences or experience. The authors noted that the participants reported easier communication with female patients and concluded that the occupational therapist’s practice becomes effective when matched to the individual’s beliefs and values. These findings may explain some of Rushworth’s (2015) observations regarding differences between clinicians and patients.

Regarding the issue of hope he suggested that the core aim of therapy is to enable patients to live in hope. He recollected how hope can be dispelled through evidence based prognosis of recovery and the lack of awareness clinicians often had regarding the devastation that this can create. He concluded by urging that clinicians build rapport ‘with someone with whom it would appear you have nothing in common’ (p74). These sentiments, while not captured through systematic methods, echo many of the issues discovered through orthodox research into the patients’ experience of rehabilitation. The need for an authentic relationship between clinician and patient based on mutual understanding and respect, empathy and positive regard. For this to become consistent practice the culture at all levels of healthcare needs to adhere to and facilitate these characteristics. The last section considering PCP will specifically examine how the ICF influences these issues.

2.9 Person-centred practice and the ICF.

The WHO has endorsed PCP (WHO, 2007) and has proposed the use of the ICF in facilitating person-centred clinical care and research (Luthi et al., 2011). These statements suggest that the ICF complements PCP and that the WHO endorses the use of the ICF to develop a PCP approach to healthcare. This section will examine these claims.

In a systematic review of the ICF's use in understanding the experience of individuals with chronic conditions Alford and colleagues (2015) reflected on the paucity of studies, although they did express optimism as, 'interest in the biopsychosocial and person-centred approach to healthcare (is increasing) as the numbers (of studies) were slowly growing' (p.659). This statement, alongside the reported lack of studies from outside Europe and North America suggests that the ICF is not currently used to elicit information specifically for the purpose of generating PCP. From the reviewed data, they surmised that the ICF is capable of supporting clinicians to create a broader understanding of the health experience of individual patients. They cautioned that attempts to generate population level data of contextual factors (within clinical practice) may prove time consuming and reductionist, suggesting that the ICF be used in a less regulated way to elicit individual patient's circumstances, whilst population level data is gathered simultaneously. This statement raises the issue of whether predetermined data (for population comparisons) can be captured in conjunction with a more organic process of understanding the essence of an individual and may without care fall into the 'trap' of inauthentic interest as described in the previous section. This 'trap' appears valid because all but one of the reviewed studies, focused on how data can be captured at a population level, which suggests that this is an area of interest to developers. This reflects one of the original drivers for the development of the ICF: to be used as a tool for collecting comparative population data. In addition, the practical consideration of whether clinicians have time to collect both sets of data is questionable in light of concerns about the overall utility of the ICF (Kjellberg, Bouc and Hagland, 2012). The authors concluded that the ICF can provide the framework for PCP, although were unable to provide definitive evidence of this occurring on a regular basis. They also recommended that to strengthen the ICF's capacity to facilitate PCP, the personal factors required further development.

Luthi and colleagues (2011) carried out a qualitative, multi-centre study into the patient perspective of functioning following SCI from a person-centred perspective. Some of the researchers were members of the WHO's ICF Research Branch whose remit is to, 'strive for the promotion of health, the restoration of functioning and the prevention of disability by applying the ICF' (https://www.icf-research-branch.org/) suggesting a pre-existing relationship to the ICF. Their primary aim was to explore the aspects of functioning and disability that are relevant to individuals with SCI, based on the ICF. Interestingly, focus group questions were based on the ICF and analytical coding of the data was against pre-existing ICF items. This would suggest that concepts lying outside the current constellation of the ICF may have been missed through the choice of methods used. The authors concluded that current ICF coding broadly reflected the pertinent aspects of functioning for people with SCI. Noting that besides impairment e.g. paralysis and pain, the most relevant concepts focused on the physical environment, assistive devices and social support and the impact on leisure and work in everyday life. These findings, whilst producing a list of ICF categories that reflects those areas of functioning and disability which are relevant to patients overlooked many of the aspects of PCP identified by Whalley Hammell (2007) in a similar cohort (in-patients with SCI). This may provide an insight as to the extent to which the ICF can facilitate PCP. Participants in the 2007 study focused on relational and emotional aspects and how they influenced PCP, whereas the 2011 researchers concentrated on more tangible issues such as impairments and assistive devises. Luthi et al.,(2011) did recognised the influence of autonomy suggesting that this can be addressed by using an additional instrument alongside the ICF. They acknowledged the methodological weakness of linking their analysis to the current ICF suggesting that it may reduce the depth and detail of the original responses but suggested no resolution. This appears to be a significant weakness of the ICF regarding PCP. If the experience of rehabilitation patients is one where the relationships and cultures of the context significantly influence person-centredness but the ICF can only deal with the measureable outcomes of interventions, then a significant aspect of PCP is disregarded. Whilst it could be argued that a framework cannot, in itself, direct behaviour (and culture) the conclusion of Luthi et al's (2011) study does not appear to recognise this limitation as they stated that, 'this list (of ICF items) may serve as a rough criterion of person-centeredness for clinicians and researchers who would like to check if the assessments, interventions and research priorities cover the patient's perspective' (p 1180). Nowhere in this declaration is there an urgency to check that rehabilitation has been delivered in a climate of mutual understanding and respect, empathy and positive regard thus threatening to reduce PCP to a checklist of areas covered. Similar concerns about the use of the ICF to facilitate PCP were expressed by Macleod and Mcpherson (2007), who acknowledged that the ICF is broader than the traditional bio-medical model but suggested that the absence of concepts such as healing, care and compassion are a significant limitation if it is to be considered a tool for the delivery of PCP. Gzil et al., (2007) concurred suggesting that while the framework shifts in perspective from the organism to the person its attempts to generate a synthesis between the BPS fails because of it alternating between being a biomedical or psychosocial model rather than integrating the two. They cited the conflict between the measurement of capacity and performance as evidence of this inconsistency and suggested that this limitation may theoretically undermine the framework as in many ways the medical and social models of disability are incompatible.

In summary, the ICF reflects many of the issues surrounding PCP such as theoretical and linguistic inconsistency leading to difficulties defining what PCP entails. One perspective, advocating that the ICF possesses the properties to deliver PCP, appears to believe that a framework that includes contextual factors will successfully generate PCP. The contrasting opinion is that PCP requires fundamental changes not only to the information captured but a sea change in how rehabilitation is provided in order to transform the relationships between clinicians and patients. For this group of commentators the ICF (in its current form) neglects to address some of the fundamental issues associated with PCP such as care and compassion. The risks associated with this situation are that: the ICF becomes a tool to operationalise PCP as opposed to an authentic method of delivering PCP; that it undergoes modification but never achieve its aim of generating PCP or; it undergoes profound modification to capture all components of PCP but in the process loses clinical utility and the capacity to generate population level comparisons.

2.10 PCP: summary

The consensus is that healthcare (and rehabilitation) needs to develop the practice of person-centredness to address the healthcare needs of the twenty-first century. What is less understood is what exactly PCP entails and therefore the magnitude of change required and how these can be realistically achieved within the context of modern healthcare. Specific to the development of PCP within rehabilitation, there remains contention between: those that advocate wholescale adoption of the values and principles of PCP and; those that believe the conceptual disparities between PCP and rehabilitation are such that only certain aspects can be incorporated into practice.

The use of the ICF to support this process is caught up in this debate with some commentators feeling that with modification it can generate PCP and others believing that it remains primarily biomedical in its focus and overlooks many fundamental aspects of PCP. This goes to the crux of the issue: is PCP in rehabilitation primarily the adoption of a number of discrete approaches into orthodox practice or a fundamental embracing of an ongoing cultural change? If it is the second, then the rehabilitation professions need to find consensus as to the underlying values and principles of PCP within the practice of rehabilitation in order to commence the process of becoming person-centred.

2.11 Conclusion and rationale for the study.

This chapter critically reviewed the BPS model, the ICF and PCP within healthcare and rehabilitation, exploring their origins, underlying theories and principles and the drivers and barriers behind adoption in practice at an international, national and local level.

The literature exposes the links (and progression) between BPS and PCP theories and the ambition that the ICF can facilitate BPS practice leading to enhanced person-centredness. What has not been established is the extent to which these ambitions have been realised in practice and whether the ICF adheres sufficiently with either the BPS or PCP models to be an effective method for their promotion (see figure 2.3)

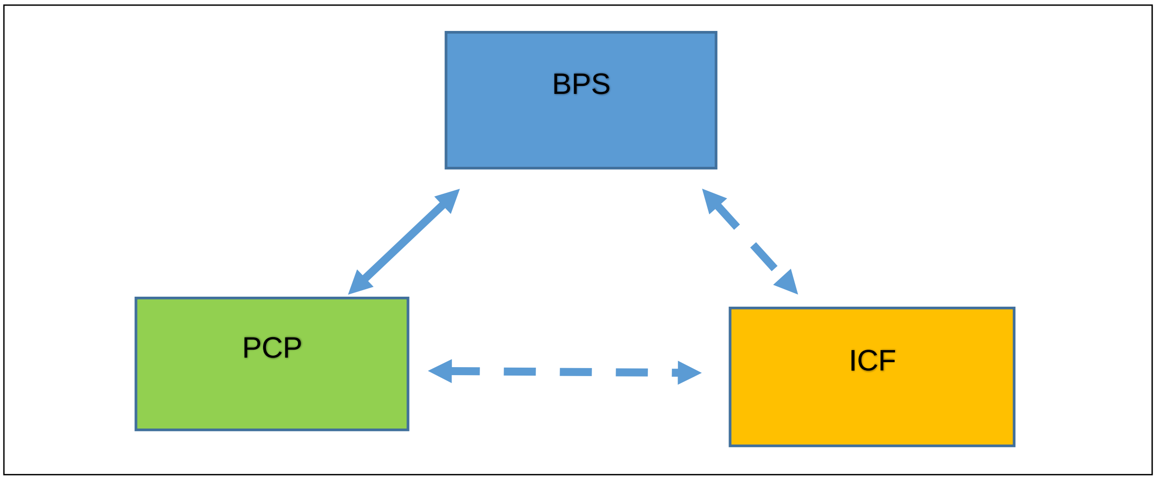


Figure 2.3 Possible relationship between the BPS, PCP and ICF

The literature review revealed gaps in knowledge around the: adherence to BPS principles; implementation of the ICF and; understanding the principal values of PCP. Specifically, these included:

- the extent to which clinicians understand and observe BPS principles in clinical practice.
- the limited evidence as to the adoption of the ICF within clinical practice or to the barriers or facilitators to its application.
- the paucity of empirical evidence on the outcome of implementing the ICF into clinical practice
- the need to study ICF-based tools at the level of individual teams, to gain a greater understanding of the effects of using it in practice.
- the influence of critical reflection and active learning on the understanding and development of a culture of PCP in rehabilitation.

This study explores the use of the ICF to promote BPS clinical reasoning and PCP in two rehabilitation teams, using action research. The aims and objectives and methodology of the study address these issues, hence its necessity.

Chapter 3. Methodology: Context, methodology and ethics

This chapter will present the research question and corresponding aim and objectives, describe the context of the study and then consider the ontological and epistemological perspectives underpinning the selection of the research methodology. It will conclude by describing the ethics, ethical processes and requirements to ensure the quality of action research**.**

3.1 Scoping exercise and refining the question.

Due to its complexity the wholesale introduction of the ICF across the community service was not viable. An initial scoping exercise, was carried out to identify: levels of interest amongst clinicians; clinical activities considered amenable to the ICF and; the practical scale of any subsequent research.

Focus groups were held generating over 30 potential clinical uses for the ICF (see Tempest & Jefferson, 2015 for details). Two discussion groups then identified those activities considered most conducive to the needs of the service and the scope of any future research. The conclusion was 'to explore using the ICF as a framework for clinical reasoning (within the team)'. It was also agreed that this investigation should ideally be carried out 'across more than one team'.

3.2 Research aim and objectives.

Through the scoping process the aim and objectives of the study were refined. They were as follows:
Aim: To explore the processes and outcomes of introducing the using ICF with two clinical teams.
Objectives:

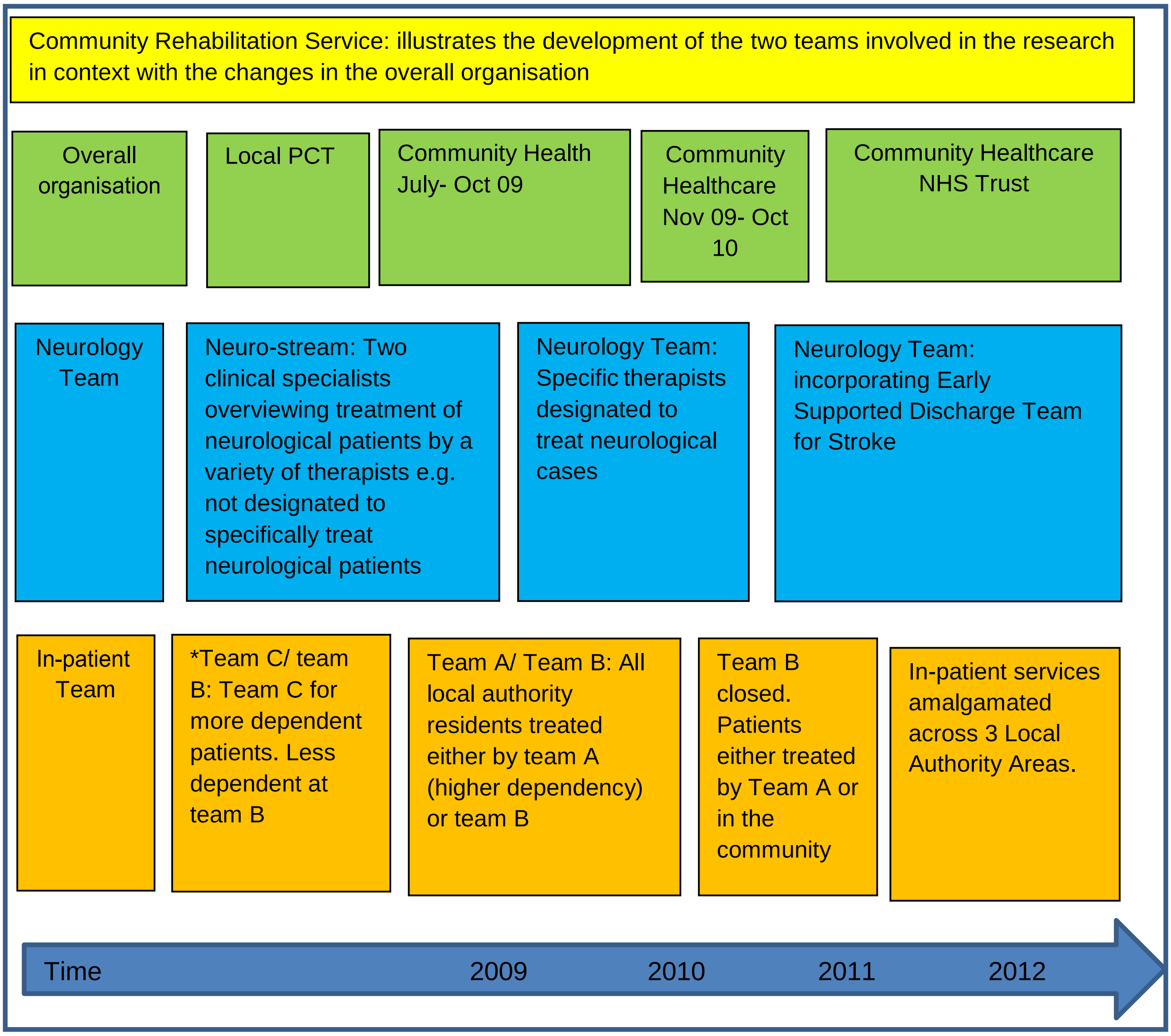
- To evaluate the ICF's introduction on multi-disciplinary clinical reasoning.
- To evaluate the ICF's introduction on communication within the MDT.
- To analyse the processes of introducing the ICF into clinical practice.
- To analyse the outcomes from introducing the ICF into clinical practice.
- To identify key factors that influenced outcomes.

3.3 Context of the research.

Action research is an approach that involves carrying out research in the context of its application (Meyer, 2006). The context is therefore influential in action research and can broadly be considered as the organisation, team composition and patient profile shaping the actions of each of the participating teams.

3.3.1 The organisation.

The organisation within which the teams are embedded underwent significant change over the period of the study (see figure 3.1).



Community Rehabilitation Service: illustrates the development of the two teams involved in the research in context with the changes in the overall organisation

Overall organisation

Local PCT

Community Health July- Oct 09

Community Healthcare Nov 09- Oct 10

Community Healthcare NHS Trust

Neurology Team

Neuro-stream: Two clinical specialists overviewing treatment of neurological patients by a variety of therapists e.g. not designated to specifically treat neurological patients

Neurology Team: Specific therapists designated to treat neurological cases

Neurology Team: incorporating Early Supported Discharge Team for Stroke

In-patient Team

*Team C/ team B: Team C for more dependent patients. Less dependent at team B

Team A/ Team B: All local authority residents treated either by team A (higher dependency) or team B

Team B closed. Patients either treated by Team A or in the community

In-patient services amalgamated across 3 Local Authority Areas.

Figure 3.1: Organisational change.

From 2009, the organisational aim was to secure Foundation Trust status for the existing Primary Care Trust (PCT). This coincided with three neighbouring PCTs coming together as one organisation, in order to share resources and enhance Foundation Trust status. The process of securing Foundation Trust status (that was predicated on the amalgamation of the Primary Care Trusts) led to the organisation undergoing three manifestations between June, 2009 and September, 2010 (see figure 1.2) before securing full Trust status in October, 2010. This resulted in both fundamental organisational changes e.g. staff restructuring, additional demands generated by the desire to become a Foundation Trust and the need for financial savings. The organisation simultaneously attempted to re-organise services across the three previously separate PCT's, achieve cost savings, whilst complying with the requirements of Monitor (a governmental agency) that it was financially viable and sustainable and well governed (Moyes, 2008). This process of structural change did not end on achieving Trust status as all trust are required to demonstrate continuing financial stability. Therefore, the context of the research was evolving.

3.3.2 The participants.

Two clinical teams, in-patient and neurology elected to participate in the study. Each team belonged to the same primary care trust, although were discrete from each other and based in different locations. Both teams internally discussed involvement prior to declaring an interest, although it cannot be assumed that all team members were either consulted or fully assented to the decision. Over the period of the study the structure and composition of both teams altered. Each team also eventually diverged in their approach to participation in the research. Initially both had embraced the democratic concept of involving all interested team members in the research process. Over time the composition of the in-patient participants condensed to include the more senior permanent staff due to a number of factors. They are referred to as the 'core team' as opposed to the 'broader team' who only became involved in the study periodically. Within this group are the key-workers who became instrumental in the latter stages of the study. They were staff drawn from the allied health professions and nursing and predominantly not part of the core research team.

The neurology team included all staff (except those on short-term agency contracts) regardless of their grade or how long they had been part of the clinical or research team. These decisions led to a marked difference in the composition of each research team and possibly influenced the overall process and outcomes of the study. Table 3.1 provides details of the characteristics of the participants over the study period. It should be noted that the in-patient numbers are influenced by periodic larger meetings with the ‘broader’ team.

Composition	**In-patient**	**Neurology**
Total number of participants over study period.	24	27
Average attendance by year		
2010	13 participants; 46 attendances; mean = 3.5	20 participants; 126 attendances; mean= 6.3
2011	11 participants; 14 attendances; mean = 1.3	13 participants; 21 attendances; mean= 1.6
2012	6 participants; 15 attendances; mean = 2.5	14 participants; 43 attendances; mean= 3.1
2013* *incomplete years	17 participants; 29 attendances; mean= 1.7	Completed work with participants.
Number of participants involved over complete period	3	4
Participants by discipline & AfC grade* *includes rotational staff.	**Nursing staff:** x1 Band 7; x2 Band 6; x1 Band 5 **Health Care Assistance**: x3 Band 4; x3 Band 3 **Physiotherapists**: x2 Band 8; x2 Band 7; x2 Band 6. **Occupational Therapists**: x1 Band 8; x1 Band 7; x4 Band 6. **Speech & Language Therapists**: x2 Band 7.	**Physiotherapists:** x1 Band 8; x3 Band 7; x5 Band 6. **Occupational Therapists:** x1 Band 8; x2 Band 7; x3 Band 6. **Speech & Language Therapists**: x3 Band 7; x1 Band 6 **Rehabilitation assistants:** x2 Band 4. **Stroke support workers**: x2 Band 4. **Clinical Psychologists:** x2 Band 8. **Dieticians:** x1 Band 7. **Podiatrists:** x1 Band 7.
Key: AfC (Agenda for Change) National Health Service banding covering all staff groups		

Table 3.1 Characteristics of the study participants

3.3.3 The patients.

In-patient team: Referral for the in-patient team came via either the community or hospital services. The inclusion criteria were broad catering for those individuals that primarily required physical in-patient rehabilitation to enable them to remain in, or return to the community. In the early phases of the study an exclusion criteria around dementia existed although this was later removed. Over the study period the team began to accept referrals from secondary care, due to the increasing demands on the local hospitals leading a number of participants to comment on the escalating complexity of the patients referred to the service. The changing clinical landscape (over the course of the study) resulted in an increasingly heterogeneous, acute caseload often with co-morbidities.

Neurology: In contrast to the in-patient team the neurology case load was more homogeneous as it excluded all non-neurological conditions. Rather, the variability within the team centred on the varied context of the patients (the majority resided in their own homes) and the differing demands between those with acquired brain injuries (ABI) and progressive condition such as Multiple Sclerosis or Parkinson's disease. Early in the study a dedicated Early Supported Discharge Team for Stroke (ESDT) was embedded within the community neurology team. Clinicians within the team had a mixed caseload of patients from the ESDT and those with more long-term needs. The ESDT had a remit to support patients for up to 6 weeks. Over the course of the study the proportion of referrals for the ESDT steadily increased. These developments reflected the changing priorities of the National Health Service (NHS) with an increasing emphasis on (particularly stroke) patients being treated, more acutely, in the community (Cochrane Rev., 2012). This reflects some of the changing landscape reported by the in-patient team.

3.3.4 The role of the researcher.

During the initial phases of the study the lead researcher's position was detached from both teams. His post was such that he was involved in regular supervisory, training and development issues within both teams but had no specific membership or clinical responsibilities. This situation changed following staff restructuring at which point the lead researcher became a member of the neurology team. This conversion from 'insider/ outsider' to 'insider' researcher within one of the teams whilst remaining and 'insider/ outsider within the other potentially influenced the study. See 3.7.4 for a more in-depth description of the positioning of the researcher.

3.4 Exclusion of patients as participants or informants.

Patients were not included in the study. The decision to consciously exclude for the entirety of the study was not made, by either team, at any part of the research. Initially, both teams expressed limited understanding or confidence in the use of the ICF and were therefore unwilling to include patients as they wished to explore the ICF and their practice with candour.

Subsequent changes in the practice context resulted in both teams expressing concerns regarding their ability to include patients as they were often unable to consistently dedicate time towards the study (often resulting in meetings being postponed). Additionally, the changing context often resulted in the participants exploring the barriers to practice. They felt they would be unable to openly discuss these in the presence of patients.

Finally, the neurology team developed a tool to explore complex cases where the MDT reasoning was contested and therefore were averse to including patients.
Occasionally the lead researcher reflected on absence of patients at which point each team reiterated the desire to continue the study without patient representation. The rationale for these decisions will be further examined within and reflections on the resulting limitations considered in Chapter 6.

3.5 Researcher's ontological and epistemological perspective.

Wallerstein and Duran (2006) noted that researchers are both influenced by their backgrounds and other histories (either acknowledged or not) when they come to do research. In this section (written in the first person) I will outline my ontological and epistemological perspective and then consider more general issues underpinning and informing the research methodology.

In order to describe my perspective a brief account of the significant events influencing my world view is required.

At the start of the study I had been qualified as an Occupational Therapist for over twenty years. For the first decade of my career I worked in acute and sub-acute inpatient neurological rehabilitation units. During this time the focus of my practice was dominated by the biomedical issues affecting my patients. This attention altered over the subsequent years when I was primarily employed in community neurological rehabilitation teams. One team, a specialist Traumatic Brain Injury service worked on an inter-disciplinary model whereby rehabilitation programmes are the embodiment of the biopsychosocial model with providers focusing on the total person (Townsend et al. 2011). This experience influenced my perspective as it stressed the strength of communication and co-ordinated care across a team to reflect the holistic needs of an individual. This change of context (from in-patient to community) also heightened my awareness of the psychosocial and economic influences shaping patients' participation and outcomes. This consciousness was particularly influenced by my experience of simultaneously working in two contrasting (socio-economic) areas of London with the same patient population (people requiring neurological rehabilitation) and as a rehabilitation tutor in Malawi (SE Africa).

My experience in Malawi also increased my perception of the plural nature of reality and knowledge. The different (Malawian) belief systems around disease and disability and the imposition of an orthodox (Northern hemisphere) understanding of health and disability highlighted the contrast between these world views. This often resulted in health and rehabilitation services being designed and managed by organisations (based outside Africa) that had limited awareness of the cultural, ontological and epistemological context, whilst expecting staff and patients to adhere to their (the organisations) world view. This often led to a power imbalance and displacement between the management, design and practice of services with limited involvement of clinicians or patients in the development of services.

Finally, studying for my MSc in neurological rehabilitation influenced my ontological and epistemological perspective. The process of considering the evidence base and carrying out research generated an understanding that evidence was not always available and that reality and knowledge could be constructed in various ways. The result of the course was a realisation that universal explanations for issues relating to neurological rehabilitation were often neither established nor uncontested.

In summary this evolving worldview has led to me striving to capture the BPS aspects of an individual in order to reflect their own subjective experience of health and therefore strengthen PCP, within an integrated multi-disciplinary framework. With respect to development of practice my stance is that this can most successfully be achieved through a process whereby clinicians and patients are provided with the opportunity to reflect and change practice in an inclusive and safe culture of mutual respect and understanding. These personal perspectives underpinned and informed the research methodology adopted for this study. The next section will consider the rationale for selection from a general position.

3.6 Action Research and rationale for selection.

The philosophical position of the research determines the selection of approach and methods. This section will briefly locate the study within the ontological and epistemological context and consider the generation of knowledge required to satisfy the aims of the study. The genesis of this study came from a common desire to investigate potential solutions to perceived weaknesses in multi-disciplinary working. Therefore the study derived from the wish of clinicians to examine and change practice as opposed to responding to an external demand.

Parkin (2009) suggested that action research can be seen as a rejection of more traditional approaches in dealing with theory development within a practice discipline. Reason & Bradbury's (2006) suggested that in addition to theory generation action research also 'seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people' (Reason & Bradbury, 2006, p.1). Together these statements suggest that action research is: not only less dependent on the rigid orthodoxies of more established paradigms having greater freedom to develop theory from the emerging evidence generated during 'action' but; simultaneously has the ability to address practical issues within the specific context of practice. Therefore, action research attempts to provide an alternative from the orthodoxies of the positivist and interpretive paradigms, by exploring both objective 'truth' and subjective 'understanding', within the context of practice. Hart and Bond (1995) alluded to this interplay of the objective and subjective when they suggested that action research may involve both sophisticated types of quantitative evaluation designed to infer the relationship between cause and effect and qualitative means of evaluating processes, such as surveying participants directly for comments on progress. Parkin (2009) suggested that action research can be considered 'post-modern' in many of its underlying principles as it attempts to address issues such as: pluralism; participation and power. This touches on the theoretical perspective of critical inquiry associated with action research that seeks to question current ideology, and initiate action, in the cause of social justice. Garoian and Gandelius, (2008) stated that in this type of inquiry researchers are committed to expose and critique the forms of inequity and discrimination that operate in daily life. Therefore action research can create a synthesis between 'truth' and 'understanding' whilst providing a vehicle to critically appraise orthodox practices and commonly held assumptions.

Prior to expanding on the rationale for the selection of action research alternative approaches require examination. Often considered the 'gold standard' of medical research the random controlled trial (RCT) derives from the objectivist or positivistic tradition. Most clinical guidelines informing both medicine and rehabilitation prioritise results from RCT's e.g. National Clinical Guidelines for Stroke, Royal College of Physicians, 2014) and the Cochrane review data base favours findings from studies adopting this methodology (www.cochranelibrary.com/cochrane -database-of-systematic-reviews/) This, or other methodologies based on the positivistic stance, do not immediately lend themselves as viable ways of investigating this study for a number of reasons. Bowling (2002) asserted that positivism assumes a single objective reality that is subject to the laws of scientific method. The methods and methodologies that stem from this stance require the controlling of confounding (often contextual) variables, the predetermination of both the variables to be investigated and the measures in which to do so and are primarily designed to measure outcomes rather than explore processes. In addition to these conditions the subjective experience and meaning to those encountering the phenomenon are not considered. In contrast a participatory stance, such as action research acknowledges the influence of the social and cultural context encompassing the phenomena enabling these to be scrutinised in addition to the object itself. These properties are not exclusive to action research and are central to qualitative approaches, such as interpretivism.

Interpretivism is concerned with the context in which an investigation occurs and is primarily interested in meaning rather than outcome (Ritchie and Lewis, 2006). A methodology associated with interpretivism is phenomenology. Whilst, phenomenology would enable the examination of the deep symbolic meaning of reasoning, and potentially the ICF, whether it would have the capacity to generate 'praxis' and therefore more pragmatically look at change in practice is questionable.

Constructionism would appear to encapsulate many epistemological requirements of this study. Crotty (2003) suggested that it views all knowledge and meaningful reality as a construct resulting from the interaction of human beings and their world that is developed within an essentially social context. This would presumably enable the exploration of the clinicians' relationship towards the ICF within the social context of the multidisciplinary team. As with phenomenology, whilst possessing the capacity to generate knowledge it is unconcerned with the production of practical solutions to issues. A similar concern surrounds grounded theory. This theoretical perspective shares the iterative nature of action research and therefore many of its strengths. Although, Lingard et al (2008) claimed that the iterative study design, theoretical sampling and system of analysis used in grounded theory are intimately related and that a study must use all three of these features to allow the emergence of new conceptual models. Presumably these conditions would restrict the freedom of movement and democratic participation essential to this study. Like other qualitative epistemologies, there is also no compulsion to take action on an issue with grounded theory, as the primary rationale for its use is theory construction through the analysis of data (Lingard et al., 2008).

As stated the genesis of the study derived from the desire of clinicians to examine and change practice as opposed to responding to an external demand. Intuitively this would suggest the use of a participatory approach as there was a fundamental desire to identify problems in clinical practice and develop solutions to improve practice (Winter and Munn-Giddings 2001). As Kemmis (2009) affirmed action research is fundamentally concerned with practices, specifically: practitioners' practices, their understandings of their practices, and the conditions in which they practise. As action research embraces the study's environment (Meyer, 2006), it enables the social and cultural context encompassing the phenomena to be scrutinised and therefore presumably satisfies Kemmis's requirements.

The focus on practitioners and practice is encapsulated in Meyer's (2000) assertion around participation, democracy and social change. This requires a flexible approach, to ensure democracy and participation. Coghlan and Brannick (2014) acknowledged this malleability stating that action research can utilise a variety of methods and practices and therefore emulates the diverse needs of the participants.

Another methodological influence is the nature of the phenomenon and setting. Ohman (2005) suggested that rehabilitation is built on social interaction and Bovend'Eerdt and associates described it as a 'complex activity' dependent on a number of coordinated interventions, within a specific context (Bovend'Eerdt et al., 2009). Parkin (2009) reflecting on the social and contextual nature of healthcare concluded that action research was therefore the most appropriate research strategy to employ when scrutinising clinical practice.

Phelps and Hase (2002) commented that the theoretical perspective of complexity can provide a valuable theoretical underpinning for action research and that action research provides a valid methodological approach to the study of complexity. These assertions suggest that any method or approach employed must have the capability to both explore the multiplicity of the social world and practical demands associated with the introduction of clinical change within the complexity of the rehabilitation process. Context, is therefore, core to both action research and rehabilitation (Meyer, 2006; WHO, 2001).

The similarities between the practice of action research and rehabilitation whereby practical knowledge is produced to 'benefit people in the everyday conduct of their lives' through 'mutual sensemaking and collective action' (Reason and Bradbury, 2006 p2) and 'a reiterative, active, educational, problem-solving process' (Wade and DeJong, 2000 p1386) is stark. The philosophical and practical resemblance between these two practices may provide useful common landmarks for rehabilitation clinicians embarking on an action research study. An additional similarity between rehabilitation and action research is the cyclical and iterative character of the process (Scobbie et al, 2011; Reason and Bradbury, 2006). Therefore this relationship potentially enhance the use of action research in rehabilitation studies as participants share philosophical and procedural approaches.

The increased use of action research in healthcare over the past few years has been associated with the need to bridge the evidence- practice gap and deliver more with less by embarking on new development and organisational change (Elsey and Lathlean, 2006; Bridges and Meyer, 2007; Lifvergren et al 2015). Lifvergren and colleagues suggested that action research can be instrumental in transforming healthcare to improve equity, quality and safety and level out system imbalances

(Lifvergren et al 2015). These comments imply that the practical knowledge, theory generation and capacity building (of all participants) generated through action research may have found recognition as a strategy for dealing with the demands of delivering complex healthcare with limited resources.

This study explores the introduction of the ICF across two discrete clinical teams (in-patient and neurology) and therefore the context and expected outcomes of the change process varies. This complexity requires a research strategy that has the flexibility to enable both groups to independently act whilst allowing comparative evaluation through adaptable analysis of the data. This demand for flexibility would exclude methodologies that require predetermined assessment, intervention and analytical protocols.

In conclusion the nature and context of the study indicates the adoption of pragmatism as the epistemological foundation for the methodological use of action research. Pragmatism explores the value of knowledge (and our ways of knowing) by its context dependent, extrinsic usefulness for addressing practical questions of daily life (Talisse and Aikin, 2008) and has been described as, ‘the use of more than one qualitative approach with another’ (Frost et al., 2010, p2).

Pragmatism has been recommended as a response to the ‘messiness’ of selecting methodology to answer a research question (Letherby, 2003) and the complexity associated with exploring practice within healthcare (Long, McDermott and Meadows, 2018). Additionally, pragmatism has been advocated as the basis for exploring changing context and culture (Johnson and Onwuegbuzie, 2004), enhancing ‘holistic understanding’ (Coyle, 2010) and reflecting the multiple world views and experiences of participants (Frost and Nolas, 2011).

Clarke and Visser (2018) cautioned that a potential danger of adopting a pragmatic perspective is the researcher’s paralysis through fear of introducing bias or of being too personal in selecting methods. The authors suggested that these issues can be mitigated through clarity of decision making, robust methods of data analysis and reflexivity. These issues will be addressed within the thesis.

Pragmatism was therefore adopted as the epistemological foundation for the methodological framework of action research, for the following reasons:

- It is participatory, democratic and practice orientated.
- It simultaneously contributes to social science and social change.
- It embraces the context.
- It has the flexibility of methods and practices to enable ‘freedom of movement’ and therefore more democratic participation (often through the use of collaborative spirals) and does not attempt to predetermine the variables to be investigated, the measures to be employed or the method of analysis.
- It has similarities of approach and philosophy with the practice under consideration.

3.7 Ethics and ethical processes relevant to action research.

This section will consider the ethics and ethical processes pertinent to action research and then examine the additional requirements of action research.

3.7.1 Authenticity.

Action research does not comply with orthodox research tenets resulting in specific requirements needing to be realised. Whereas conventional methodologies expect validity to be achieved authenticity is of greater interest in action research. Lincoln (2001) proposed that validity in its conventional sense had been deconstructed and ‘nothing less than a complete rethinking of validity is imaginable’ (p. 62). As Reason (2006) suggested action research reveals multiple truths and therefore a positivistic concept like validity is of limited worth. To ensure that these numerous realities were reflected in the study ensuring authenticity of the findings was paramount. Authenticity was ensured through two interlinked processes. Firstly all findings, decisions, transcripts or summaries were disseminated to the participants with the request that they be reviewed and any changes, additions etc be circulated amongst the participants. These would then be combined and then sent back for review. Secondly, an awareness that decisions and knowledge generation was a communal process and therefore the lead researcher was not sanctioned to make unilateral decisions or interpret findings. This awareness was important as the lead researcher was often delegated tasks (such as exploring the evidence around an issue). On these occasions he ensured that the participants gave him explicit directions to reduce the risk of him drawing his own interpretation as to their wishes. Once he had completed a task he would disseminate the findings and ensure that they reflected the expectations of the participants.

3.7.2 Reflection and reflexivity.

An associated issue central to action research is that of reflection and reflexivity (Bjørn and Boulus, 2011). These concepts are closely aligned and could be considered to be on a continuum. As Reason & Bradbury (2006) advocated before engaging in change processes, we need to be willing to engage in transformation of consciousness and behaviour at personal and interpersonal levels. Dewey (1910) suggested that the process of reflective thinking involved: a state of perplexity, hesitation, doubt; and an act of search or investigation directed toward bringing to light further facts which serve to corroborate or to nullify the suggested belief. These statements encapsulate the central demand and necessity of reflection and reflexivity. Without these processes the deeper meanings, assumptions and orthodoxies revealed through action research would neither be acknowledged or examined (ultimately impoverishing the research). This is not a detached process as it requires participants to find strategies to question their own attitudes, thought processes, values, assumptions, prejudices and habitual actions. Essentially to understand their complex roles in relations to others (Bolton, 2010). The same author expands this discipline suggesting that reflexive thinkers make aspects of the self, strange by standing back from their beliefs, values and professional identities, and focusing on how they are embedded in cultural structures (Bolton, 2010). Reflection and reflexivity was engendered within the study through a number of processes. Initially the lead researcher recognised the need to develop his reflective practice. This was primarily achieved through regular supervision, meetings with his critical friend, increasing his knowledge of both the concept and practice and through the use of a reflective diary. As the study progressed the process moved from one of reflection to reflexivity. This occurred due to the increasing awareness of the lead researcher and in conjunction with the development of the study. Jacobs (2008) proposed that reflexivity takes place within the 'doing' and implies the ability to reflect inward towards oneself as an inquirer and towards the understanding that is the result of the action. Reflection and reflexivity was encouraged amongst the participants through: the use of various methods (to capture diverse opinions and values); regular dissemination of the participants' differing ideas and; creating the 'space' to air and reflect on issues generated through the research process e.g. whether participants wished to continue with the project.

As implied this process can be challenging for all individuals as it ultimately requires the attitude of not taking for granted what appears as ‘real’ or ‘truth’ but to dig beneath the surface to arrive at a deeper understanding of a phenomenon and one’s part in it. It comprises both the questioning of one’s theoretical assumptions and methodological choices (epistemological reflexivity) as well as the ways the self is involved in the process of knowledge construction (personal reflexivity) (Willig 2001). A consequence of this process can be either unsettling or lead to greater self-actualisation for participants that in turn can result in a questioning of some of the fundamental processes, values or habits of the organisation. This transformative and potentially challenging process needs to be acknowledged and sensitively managed by the lead researcher and addressed as a potential ethical issue (see 6.7).

3.7.3 Power.

Two aspects associated with positioning are power and trust (McNess, Arthur, and Crossley, 2013; Christopher et al., 2008). Prior to the re-structuring the lead researcher had held a post that was poorly defined with a role that could be perceived as either managerial or clinical. The remit allowed him to explore practice across all teams within the trust. This universal and potentially influential role may have been perceived as incorporating both the power to demand change and a policing remit. Whilst the lead researcher did not understand this as his role, the ambiguity of it and its description by some within management may have led to this perception. Contrastingly, the loss of this role lead to numerous expressions of regret (and anger) on the part of staff (including research participants) that may have indicated a change in the perception of the role of the lead researcher. He could no longer be seen as an outsider that had closer proximity to the management and possibly exerting greater influence. Therefore applying Milligan’s (2014) definition of positioning the lead researcher may have become more of an insider in both teams through a perceived reduction in power.

Mechanisms employed to both explicitly confirm the position of the lead researcher (with the participants) and to reflect on the influence that this may have on the study included: confirmation with the participants as to the expectation of the lead researcher’s responsibilities when delegated actions; clarity of the expectations of (and on) the lead researcher as to the outcomes of the study; devising of an ethical framework; periodic review with the participants as to the progress of the study; the use of a reflective diary; regular supervision and; meetings with the critical friend.

3.7.4 Positioning.

The positioning of the researcher within the study referred to their (lead researcher’s) proximity with the participants and their work. This ‘proximity’ is further blurred as it relates to both the researchers view of themselves in the research process and the ways in which their role is defined by the participants (Milligan 2014). Imprecisely, researchers can either be drawn from the same group as the participants (insider researchers) or come from outside the group and organisation (outsider researchers). A number of authors have recently sought to reconsider insiderness and outsiderness and argued against their fixed dichotomous entities (Arthur 2010).

Hellawell (2006) contended that lead researchers have different degrees of outsiderness or insiderness; neither completely on the outside looking in nor on the inside taking part. This assertion resonates with the study whereby the lead researcher could at various times be described as an outsider, outsider-insider and insider. This ‘repositioning’ primarily resulted from the length of the project and the re-structuring of the organisation. The study lasted over two years during which a number of changes in the organisation occurred. During this period the lead researcher’s post was deleted. This position had a pan-organisational remit covering the two research teams. Following the elimination of the post the lead researcher became a clinician within the neurology team. Technically he was now an insider researcher within the neurology team and an outsider to the in-patient team. As Arthur (2010) asserted in reality positioning is more nuanced than the binary descriptions of insider or outsider. The in-patient group was well established and did not noticeably change their response or attitude to the lead researcher other than condoling him on the loss of his post. The impact on the neurology team was more significant although other than further condolences his role within the study was established and therefore the explicit response was limited.

3.7.5 Trust.

Allied to the concepts of authenticity, reflection and reflexivity and positioning is the building and maintenance of trust. These aspects need establishing in order to generate trust. Wallerstein and Duran (2006) noted that researchers are both influenced by their backgrounds and other histories (either acknowledged or not) when they come to do research and this can affect trust. Huchler and Sauer (2015) suggested action research is well positioned to engender trust through its shared democratic engagement in action. Therefore through the multiple processes of reflection and reflexivity, generation of authenticity and democratic participation this study attempted to build trust. Christopher and colleagues (2008) proposed a number of mechanisms to both build and maintain trust with research communities. These included: being present in the community: listening to participants; being explicit about expectations and intentions; acknowledging the expertise of all participants and; matching words with actions. The preceding sections have outlined how these processes were addressed in this study.

3.7.6 Unpredictability and exposure.

The emergent, unfolding, nature of action research becomes problematic when attempting to anticipate future ethical issues (Coghlan and Shani, 2005). More orthodox methods can usually predict ethical concerns in order to notify ‘subjects’ prior to participation. This surety cannot be provided in action research. Whilst participants in this project completed conventional ethics forms additional actions were required to ensure informed consent. Prior to the commencement of the project the lead researcher met with both teams to outline the nature of action research. This consisted of a presentation and discussion that led to the drawing up of a basic ethical framework. Within this framework there was a recognition of the unpredictability of the approach and the inherent risks associated.

A further ethical issue potentially impacting on participants is the political nature of action research (Williamson and Prosser, 2002). Participation can be politically and ethically problematic for participants, resulting in a greater element of ‘exposure’ and this can have particular consequences for those working in their own organizations (Williamson & Prosser, 2002). This exposure often results from the “uncovering of submerged power dynamics” within the workplace (Brookfield 2000 p.40) leading to judgements that may be regarded as subversive or acts of sabotage, because they involve questioning organizational and individual practices, norms and beliefs (Coghlan 2001).

Williamson & Prosser (2002) proposed a number of ways to mediate for the risks related to participation through the posing of 3 questions, namely:

1. *If researcher and participants collaborate closely, how can confidentiality and anonymity be guaranteed?*

   Amongst the participants a culture of candidness prevailed that precluded the desire for confidentiality or anonymity (within the teams). Both teams were prepared to contest opinions and assert their ideas. The very nature of the study was frequently challenged within the neurology team. With more discrete actions e.g. interviews and mapping exercises the results were disseminate although not attributed to an individual. Regarding the issue of confidentiality and anonymity outside the research groups there was little external scrutiny or interest. On those occasions when the project was discussed (outside the team) a participant or lead researcher represented the team as a whole, rather than attributing specific opinions or actions to individuals.
2. *If an action research study is a 'journey' and 'evolves', how can informed consent be meaningful?*

   As previously mentioned a basic ethical framework was devised to address this issue, although in reality it was rarely reiterated or referred to. Consent was arrived at in an 'ecological' way whereby participants were able to 'dip in or out' of the project as they wished (therefore withdrawing or reinstating consent). In addition to the flexibility of participation, decisions were arrived at as a group and therefore the actions and direction of the project were agreed in advance.
3. *As action research can have political consequences, how can the researcher avoid doing harm to the participants?*

There was little discernible recognition of the project within the wider organisation and therefore minimal overt challenge to existing practices or power dynamics. Latterly participation became a challenge due to the conflicting demands on the participants and emerging context. On these occasions, the lead researcher offered to mediate (as it had previously been agreed that participation would not be impeded). The participants agreed to address the issue independently. Whilst the lead researcher reiterated his commitment to ‘protecting’ the participants he did not wish to take away this opportunity for the participants to present their research.

3.7.7 Summary.

Action research demands a number of skills and disciplines to assure the application of an ethical framework. This requires of the lead researcher a range of academic, inter and intrapersonal skills. They must also be reflective, be able to define and understand their role and position within the project and understand the context and dynamics of the situation. In addition they are required to describe and defend the approach, whilst protecting the participants and managing an unpredictable process.

In summary, these demands require the researcher to manage the dynamic relationship with the sensitivity and skill to become a ‘friend’ to the research (Drummond and Themessl-Huber, 2007). This section has described how these numerous requirements have been addressed within the project.

3.8 Additional requirements of action research.

This section will investigate issues relating to the ethics of action research that have not been addressed previously. It will conclude by describing the attributes required to promote an ethical approach to conducting action research.

3.8.1 Reputation of action research.

The perception of action research within the academic community can, in itself, become an ethical issue. Eden and Huxham (1996) advised that the heterogeneous nature of action research should not excuse muddled or non-rigourous research. They advocated that good research should be synonymous with good science. Bradbury Huang (2010) touched on the same subject admitting that early in her academic career she had dismissed action research and continues to ‘feel disdain for work labelled action research that is uncritical’ and ‘ forgets that contribution to theory and practice is also required’ (p97). This ongoing debate can influence the confidence of the lead researcher and then by ‘osmosis’ the participants. To mitigate for the uncertainty and unfamiliar nature of this approach the lead researcher was required to understand the principles and theory underpinning action research sufficiently to describe it to the participants and potentially defend it to both academics and health service managers.

As Walsh and colleagues (2008) noted often those who are sceptical of the value of action research, are the same people who wield influence within research and development in the NHS. In this project this confidence was derived from regular supervision and guidance from supervisors and a critical friend who had experience of action research.

3.8.2 Assessment of the quality of action research.

Levin (2012) recognised the dilemma of maintaining both rigour and relevance (in action research), whilst adhering to orthodox measures of quality applied to social sciences. A number of commentators have attempted to address this concern by articulating criteria with which the quality of action research can be assessed (Bradbury Huang, 2010; Herr and Anderson, 2005; Waterman et al., 2001). This section will provide a brief overview of the commentary surrounding quality in action research, review the suggested criteria and signpost to the evidence of adherence within the thesis (see table 3.2).

3.8.3 Quality and action research.

The issue of quality in action research is contested. Not the need for good research rather its nature. Those from a naturalistic tradition prefer trustworthiness (Lincoln & Guba, 1985), whilst those with a postivistic conviction validity (Campbell & Stanley, 1963). Herr and Anderson (2005) advocated that due to its orientation on action neither are adequate as there is a simultaneous need for outcomes in conjunction with knowledge generation. To elucidate the same authors proposed five quality criteria to be applied to action research: the generation of new knowledge; the achievement of action-oriented outcomes; the education of both researcher and participants; results that are relevant to the local setting and; a sound and appropriate research methodology.

Whilst these overarching principles provide a vital framework, recognition as legitimate research requires refined measures. This is the point where opinions diverge. Bradbury Huang’s (2010) criteria appear to integrate both the rigour of more traditional methodologies e.g. objectives, method and process with the demands of a participatory approach e.g. partnership, participation and reflexivity. Conversely, a number of influential commentators have questioned whether the orthodox notions of validity should apply to action research due to their associations with positivism (Wolcott, 1990; Schwandt, 1996). Bradbury and Reason (2006) acknowledged this dissension and hoped to ‘build a bridge’ between the concerns of the academic community and the desire of action researchers to reflexively address practical questions. Levin (2012), using the same analogy, proposed constructing a bridge to link the unique properties of action research to the wider research community. He suggested this should be achieved through training for action researchers’ focusing on the skills required for fieldwork engagement and the analytical reflexivity needed to produce scientific texts. Both of these commentaries suggest that a set of criteria that can simultaneously protect the relevance and practicality of action research whilst demonstrating the rigour required for research is needed. Within this criteria there is also the requirement to defend the choice of actions undertaken (Bradbury and Reason, 2006). As discussed actions occur simultaneously with methods within action research, significantly influencing the course of the study and therefore need to be explained.

In order to scrutinize the quality of an action research project the criteria developed by Bradbury Huang, (2010) will be examined. Table 3.2 lists the criteria and location of the evidence within the thesis.

Quality markers	Description	Evidence
Articulation of objectives:	The extent to which authors address the objectives they believe relevant and the choices they have made in meeting those.	Chapter 3 and 4
Partnership and participation	The extent to and means by which people reflect or enact participatory values. This can range from consultation with stakeholders to stakeholders as full co-researchers.	Chapters 4, 5 and 6
Contribution to action research theory and practice	The extent to which the project builds on or contributes practice knowledge and or theory.	Chapter 6
Methods and process:	The extent to which the methods and process are articulated and clarified.	Chapter 3 and 4
Actionability	The extent to which the project provides new ideas that guide action in response to need and improves practice.	Chapters 4, 5 and 6
Reflexivity:	The extent to which the authors explicitly locate themselves as change agents.	Chapter 4 and 6
Significance:	The extent to which the insights in the manuscript are significant in content and process. By significant we mean having meaning and relevance beyond their immediate context.	Chapter 6

Table 3.2 Action research quality markers location within the thesis.

3.9 Chapter summary.

This chapter opened with a reiteration of the research aims and objectives, a description of the context of the study, the researcher’s ontological and epistemological perspective, action research and its philosophical position and the rationale for its selection.

The final section reviewed requirements specific to action research and ethical considerations. The criteria for assessing the quality of action research projects were then described with indications of how these were addressed within the study and location of evidence within the thesis.

Chapter 4: Action Cycles, analysis and general findings.

The study produced different types of knowledge. Firstly, knowledge- in- practice that reflects the aims of the participants and broadly follows the action cycles. Knowledge in practice is the ‘knowledge that is useful to people in the everyday conduct of their lives’ (Reason and Bradbury, 2006 p2); in essence is the knowledge required to inform their action. The first part of this section will present a synthesis of the action cycles that are pertinent to the study’s outcomes. The concluding part will consider the general evaluation data generated from the process of immersion and thematic analysis (see 4.8.2) that followed the conclusion of the action phases.

4.1 Data Sources.

Findings drew upon the various data sources, across all the actions cycles (see table 4.1).

Data Source	Data type	Team
Experiential learning and discussion meeting notes	Qualitative	Both
Questionnaire	Quantitative & qualitative	Neurology.
Follow up interviews	Qualitative	Both
Focus group	Qualitative	Neurology.
Reflective field notes	Qualitative	Both.
Core set development tool	Quantitative & qualitative	In-patient
Clinical reasoning mapping interviews	Qualitative	Neurology
Mapping ICF items to specific disciplines requirements.	Quantitative & qualitative	Both
	Qualitative	In-patient
Key-worker role and tool development meeting notes	Qualitative	Neurology
In-service training notes	Qualitative	In-patient
Key-worker training notes	Quantitative	In-patient
Goal audit	Quantitative	In-patient

Table 4.1 Data sources.

4.2 Scoping exercises.

These activities occurred prior to the start of the study and were available to participants from throughout the community service. Through this process an additional 35 ways to utilise the ICF were identified (see Tempest and Jefferson, 2015- appendix F) and the focus and extent of the study were established.

4.3 In-patient exploration phase: Action cycle 1: Understanding the ICF and its possible uses.

The initial action cycle explored the in-patient team's understanding of the ICF and its possible uses. This cycle explored two associated issues (understanding and use), both subjects are incorporated into the same cycle. Knowledge of the ICF was addressed prior to exploring potential uses and reported in the sequence they occurred. These processes led to a recognition that the ICF required modification for clinical application and of the need to gain consensus regarding its use (see Figure 4.1).

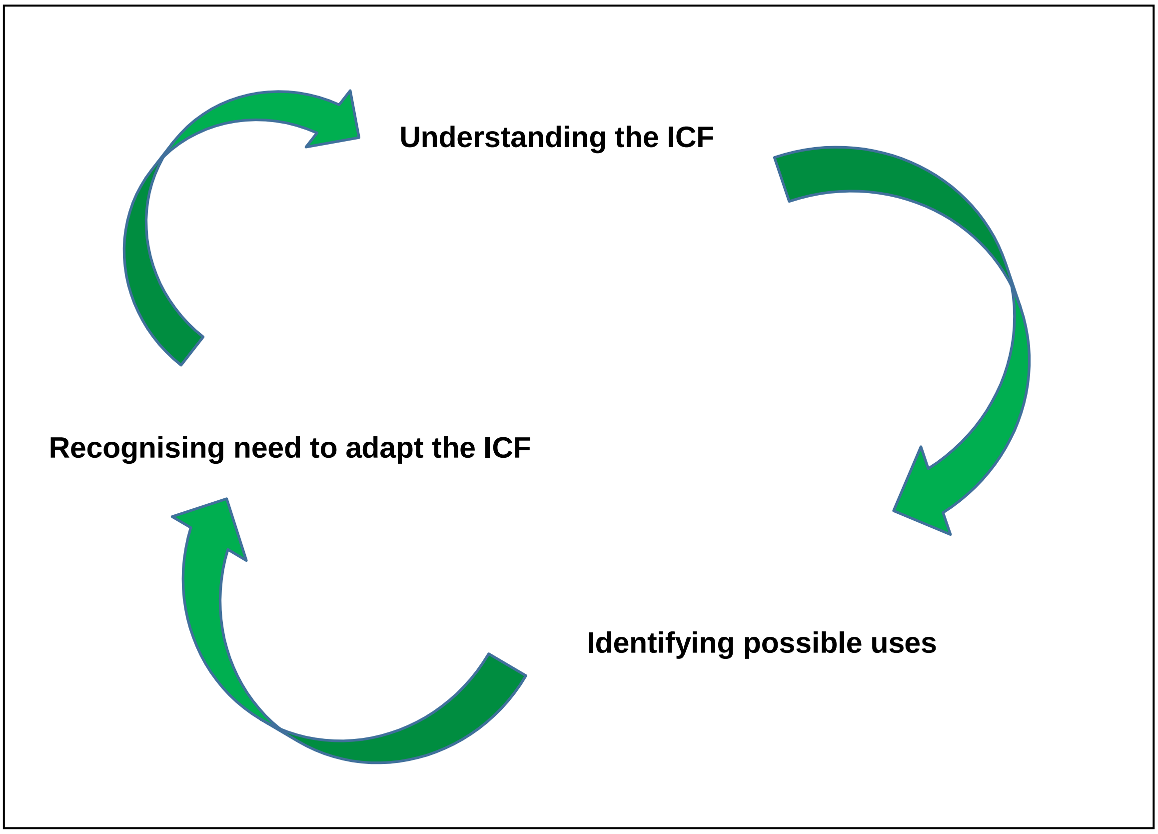


Figure 4.1 Action cycle 1: Understanding the ICF and its possible uses.

4.3.1 Action: Case vignettes.

Following an initial meeting exploring the ICF and action research the team agreed to utilise case vignettes (drawn from the participants' experience) as a vehicle for application, reflection and experiential learning during two meetings (see table 4.2).

In-patient (n=4)* 2 meetings	
Number	Discipline
1 3 2	Nurse Physiotherapists Occupational Therapists

Table 4.2. Participants exploring case vignettes (in-patient).

The aim of the process was to apply the ICF to current cases to ascertain participants' knowledge of the ICF and gain greater understanding of the framework. Participants were asked to present a current case and then categorise as *per* the ICF components e.g. body functions. All participants were encouraged to contribute to this process enabling shared experience and learning.

Reflection.

The team realised the length and complexity of the framework and acknowledged their limited knowledge and experience of using the ICF in practice. Participants became aware that the framework had the capacity for modification. Whilst all participants agreed to continue exploring its use a number reported limited confidence in its application.

Evaluation.

The participants agreed that the next phase of the action cycle should explore how the framework could augment clinical practice through the trialling of a basic ICF tool.

Findings.

Initially knowledge of the ICF was partial, with participants declaring limited experience of its use,

> ‘The overall framework and components were known to the co-researchers (with the exception of the nurse), although there was less knowledge around the ‘deeper’ categorisation’. (In- patient summary February, 2010)

This cursory knowledge indicated that many of the participants had limited awareness of the potential of the ICF to enhance their practice. The early impressions of the framework’s complexity also influenced participants’ appraisal of its potential us,

> ‘…you kindly gave me the little red book (ICF manual- short version) and I brought it home and had a look first of all it was complete gobbledegoop,… I thought that this is just nuts’ (Interview in-patient nurse July 2013)

This statement illustrated that on initial examination the ICF did not instil confidence in its clinical utility.

4.3.2 Action: Practice application and meeting.

The team applied the ICF in practice to explore its potential use. This was carried out through an open tool with a broad protocol. It was ‘open’ in that it only categorised data within the broad ICF components e.g. activity limitation, without any detailed ordering (appendix C1). The protocol for use was that participants’ would ‘populate the tool’ by recording any findings within the appropriate ICF component e.g. reduced attention, within the body function section, using the ICF book for guidance. This process would continue until all the patient’s issues had been identified and then the information would be shared amongst the MDT. Following application findings were captured via meeting minutes (see table 4.3) and the field notes/ reflective diary.

In-patient (n=4)	
Number	Discipline
1 2 1	Nurse Physiotherapists Occupational Therapists

Table 4.3. Application meeting participants.

Reflection.

Following application the team agreed on the purpose of the ICF (see table 4.4), although expressed limited confidence in their ability to operationalise the framework.

'…subjective' report of the patient around their experience of a disability is a significant part of the desired clinical reasoning tool' (In-patient summary May 2010)

'…a framework that would integrate the nursing staff into multi-professional clinical reasoning' (In-patient summary Feb, 2010)

'…a shared framework and language for multi-disciplinary working' (In-patient summary April 2010)

Table 4.4 Ways for the ICF to enhance practice: In-patient team

Evaluation.

The team agreed that the general focus of any tool should be multi-disciplinary and person-centred. The participants acknowledged the need to simultaneously modify the ICF for clinical reasoning whilst refining its use.

Findings.

A number of issues resulted from the trial: that participants' were not always confident that they categorised data correctly e.g. between activity and participatory classifications; or that the data was relevant e.g. classifying pre-existing conditions such as kyphosis; or that they understood the ICF terminology to enable accurate categorisation. Additionally, they expressed concerns that: the ICF framework was too large to understand and use; that participants were unsure when sufficient data had been collected or when to use the tool.

4.3.3 In-patient action cycle 1: Summary.

This action cycle explored knowledge and application of the ICF leading to a recognition that the framework needed modification.

The malleability of the ICF enabled the in-patient nurses to propose a model sufficiently accommodating to include all disciplines,

> '…something that would give us (nursing) the model of care that would fit into the rehab setting and the MDT and something that we could use in that setting to hinge our practice upon' (Interview in-patient Nurse July 2013).

The motivation to adapt the ICF was influenced by the level of agreement on the purpose of the tool. With the in-patient team refinement was enabled by consensus on the ultimate aim of the tool.

4.4 In-patient innovation phase: Action cycle 2: Adapting the ICF for clinical use.

Action cycle 1 identified a number of barriers effecting the introduction of the ICF into practice. This subsequent action cycle focused on exploring clinical utility through: developing a clinical tool and; applying the tool to practice. These actions led to a recognition that further adaptation was required to meet specific contextual needs (see figure 4.2).

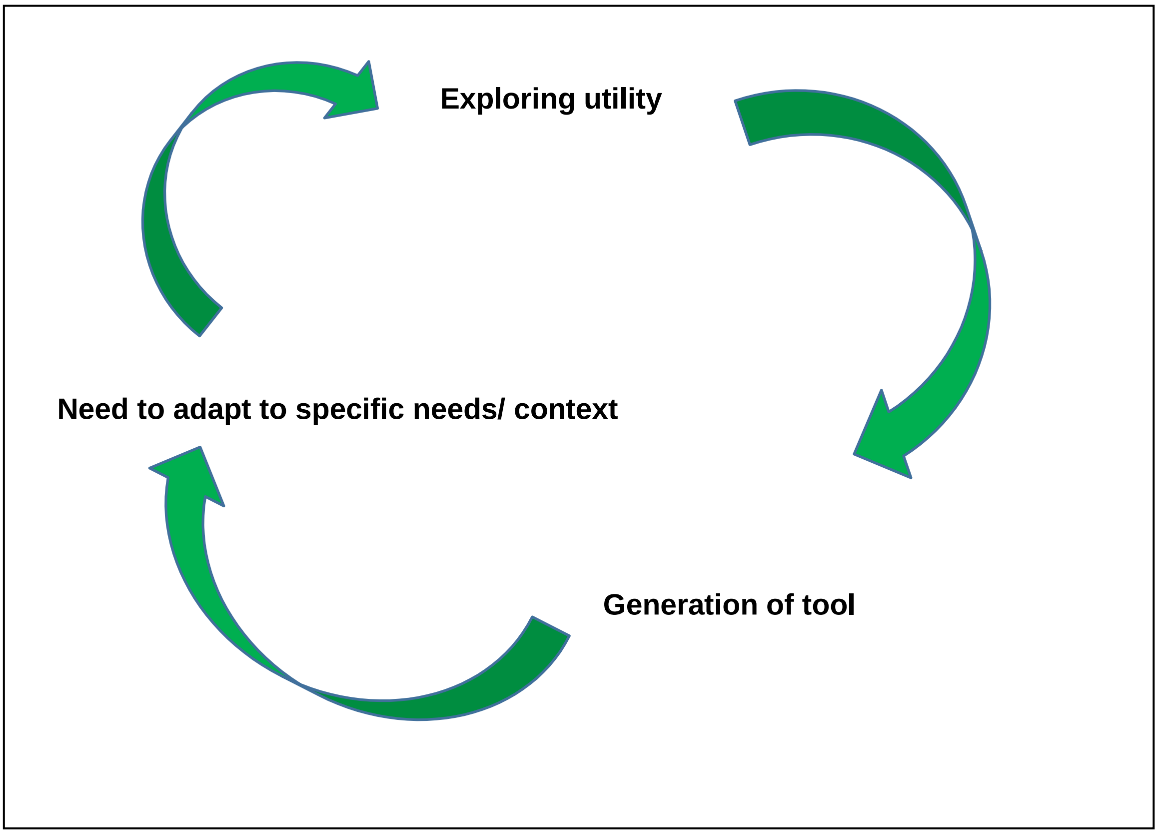


Figure 4.2 Adapting the ICF for clinical use

4.4.1 Generation of a tool: developing a core set.

The development of a core set was complex requiring a sequence of events. Figure 4.3 illustrates the collaborative spiral of planning, acting, observing, reflecting and re-planning (Meyer, 2000) required to explore the use of core sets in the development of an ICF clinical tool.

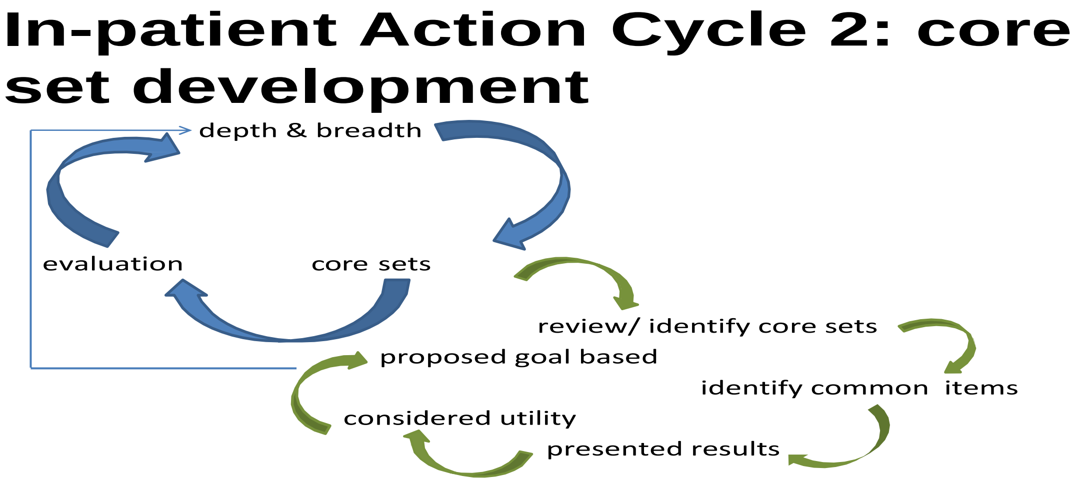


Figure 4.3 collaborative spiral investigating the use of core sets

4.4.2 Action: Presentation and discussion groups.

Following initial application it was acknowledged that the ICF items pertinent to practice needed to be identified. Core sets had been developed to incorporate all items relevant to either a specific health condition or setting (see 2.3.5). The lead researcher was tasked to investigate all core sets in order to identify those that may be applicable, the team identified seven core sets and the lead researcher was asked to amalgamate the selected sets. This was carried out and the results were presented to the team.

In-patient (n=7)	
Number	Discipline
1 3 3	Nurse Physiotherapists Occupational Therapists

Table 4.5 Core set presentation participants.

Reflection.

The amalgamation of seven core sets for the in-patient group was considered too large for utility. As a participant commented,

> ’95 items is far too big. We’ll never use it in practice’ (in-patient PT June, 2010).

Evaluation.

The team agreed to generate their own core set. They decided that they needed to identify the range of their interventions as *per* the ICF items in order to design a tool that reflected their scope of practice.

Findings.

The 95 body function items generated from the amalgamation of the seven core sets was considered too large for utility. This finding has significance as core sets have been devised to assist in the adoption of the ICF in clinical practice (see 2.3.5). The inability of the in-patient team, due to the heterogeneous nature of their patients, to adopt pre-existing core sets suggested that they are not beneficial in all contexts of practice.

4.4.3 Action: Mapping ICF items to common goals and health conditions.

This process involved two discrete phases. Firstly the lead researcher audited all the goals set within the in-patient service over the previous three months and recorded the health conditions. He then merged the entries to create a definitive list of all the areas that had been addressed. The lead researcher presented the findings (see table 4.6).

In-patient (n=5)	
Number	Discipline
1 3 1	Nurse Physiotherapists Occupational Therapists

Table 4.6 Mapping exercise presentation participants.

Reflection.

The team acknowledged that the data reflected the activities that had been the focus of the rehabilitation goals but this excluded the body function and structure items of the ICF.

Evaluation.

The team requested that the lead researcher mapped all the goals to their corresponding body function and structure items.

4.4.4 Action: Mapping goals and health conditions to body function and structure items.

This action used the data generated during the mapping of ICF items to common rehabilitation goals and health conditions to generate a team specific core set. The participants (see table 4.7) met three times taking each common goal (generally an activity or participation item) e.g. walking and then identified all the body function and structure items that related to the goal e.g. muscle power functions, for each of the common health conditions e.g. stroke or osteoarthritis.

Mapping exercises (n=5)* over 3 meetings	
Number	Discipline
3 1 1	Physiotherapists Occupational therapists Nurse
Key* some participants attended more than one meeting e.g. the nurse	

Table 4.7 Mapping participants.

This method constituted a 'reverse engineering' of the creation of orthodox core sets whereby all items relevant to a specific health condition are identified. This process took the 'starting point' to be the activity (as opposed to the health condition) and then moved towards the biomedical genesis identifying the pertinent body function and structure items. In order to ensure a definitive list this mapping process was repeated for all common health conditions seen by the in-patient service (appendix D1). Data was collected via completed mapping tools and meeting minutes.

Reflection.

The participants reported that the developed core sets appeared to capture their scope of practice. The contributors observed that this action had provided an insight into each disciplines practice, enhancing the team's BPS approach. The team reflected on the absence of Speech and Language Therapy (SLT) input into the development of the core set and therefore that that this area maybe insufficiently represented.

Evaluation.

Due to the paucity of SLT involvement it was decided the core sets needed further revision, prior to application.

Findings.

A significant discovery was that core sets could be devised from cross referencing activity and body function/structure items to health conditions to identify a comprehensive set. There were no published examples of this method of development being used. This process enabled the team to devise a precise core set for a heterogeneous cohort of patients (many with co-morbidities), without the need to apply multiple sets. This finding has value as it may provide a way for individual teams to generate core sets specific to their practice therefore enhancing both the sensitivity and utility of the ICF. This process generated a core set with fewer items that remained sensitive as it reflected only those limited activity areas addressed within an in-patient rehabilitation unit. This enhanced the utility by developing a bespoke tool with no superfluous items.

4.4.5 Subsequent actions: SLT review and language revision.

Following this action a SLT (within the broader team) reviewed the core set and recommend expansion or reduction of the included items. Additionally, the language was revised through the mapping process and amendments recommended and endorsed (by the team). This process led to greater knowledge and clarity that in turn resulted in increased recognition of the ICF's utility,

> '…when we drew out from it (the ICF) the pertinent levels…then it kind of fell in to place.' (Interview in-patient nurse July, 2013)

These findings indicated that the ICF language required simplification to enhance clinical use and that the process of adapting the framework generated knowledge.

4.4.6 Action: Piloting and clinical application.

This action was undertaken by the team following changes to the content and language of the ICF, to examine how the tool could be applied. The team agreed to independently pilot and evaluate the tool and when they had sufficient data they would meet to discuss their findings. Time constraints altered these arrangements. The team continued collecting data, recognising that the duration would increase and that dedicated time would be required (with the lead researcher) to enable sufficient reflection and analysis. This process resulted in the application of the tool on 4 separate occasions by 3 participants (1 Nurse and 2 Physiotherapists). One participants applied the tool twice.

During the piloting process one participant trialled the tool, without reacquainting herself with the protocol. Rather than identifying the areas that needed to be assessed by the MDT she used it to interview the patient on his experience of each of the ICF items.

Reflection.

The participants commented on the impact of time constraints on their ability to pilot the tool, leading to expressions of regret for not applying the tool,

> I'm sorry I know I had promised to pilot (the tool) I just haven't had time (In-patient meeting summary May 2012).

Whilst the participants expressed frustration with their limited capacity they were encouraged by the outcome of the inaccurate piloting of the tool, resulting in some unexpected outcomes,

> '…it provided insights that had not been expected, areas that the patient considered most important. The subjective view from the patient was of great benefit and was worth the time invested'. (In-patient meeting summary May 2012).

This serendipitous discovery resulted in a renewed focus on developing a person-centred tool.

The lead researcher reflected on the issue of patients' not being involved in the development of a person-centred tool. The participants acknowledged the contradiction, although observed,

> 'I don't know if I know the ICF or what we intend to do with it well enough to include patients' (In-patient meeting summary May 2012).

and another acknowledged,

> 'The way things are at the moment we can't commit to regular meeting times so I'm not sure how we include them (patients)' (reflective diary June 2012).

Evaluation.

Time constraints and limited confidence resulted in the lead researcher having a greater involvement in the facilitation and feedback process and in the team electing to continue without patient representation.

The discovery of the value of applying the tool 'incorrectly' (as an unintended interview topic guide) led the participants to focus on the development of a patient-centred tool and creation of a key-worker role.

The team determined to ascertain patients' subjective experience of their functioning through modification of the tool and its application e.g. a staff member allocated the responsibility of administering the tool.

Findings.

Involvement in the study exposed the increasing demands on the participants resulting in an awareness of their limited capacity to engage in developing the tool and the diverging priorities of the study and organisation.

Trialling of the tool had established that the patients' needs were generally homogeneous (due to pre-admission screening). These factors led to a belief that the same tool could be utilised for all patients, although there remained concerns regarding duplication of data through multiple applications of tools, due to the escalating use of in-patient outcome measures. As a participant reflected,

> '…risk of patients being asked twice for the same information e.g. activity priorities' (In-patient summary, June, 2010).

This resulted in a desire to adapt the tool to ensure that it complimented existing measures, leading to an interest in a person-centred tool.

Inaccurate application of the tool had exposed the possibility of the ICF being adapted to capture data on the subjective experience of the patient.

4.4.7 In-patient action cycle 2: Summary.

Findings from this action cycle revealed that the ICF could be modified from a generic framework to one that reflects specific practice such as complex in-patient rehabilitation. This process focused primarily on adapting the content and terminology of the ICF and its level of application. Whilst this method generated a viable tool it was insufficiently developed to address the particular context of practice such as the pre-existing tools, team resources, priorities or the organisational demands on the team.

This action cycle shaped the team's desire to develop a MDT patient-centred instrument. Application and reflection on the tool's use concluded that further revision was required to achieve these specific needs. The team's confidence in their knowledge of the ICF and capacity to engage in the study inhibited the inclusion of patients in the study.

4.5 Innovation phase Action cycle 3: Adapting the tool for specific needs and context

The team had identified a method of applying the tool that enhanced their person-centred practice (PCP). This action cycle focused on refining the specific properties of the desired tool, modifying the tool and its application, revising and trialling it amongst the core team and applying it through the broader team (see figure 4.4).

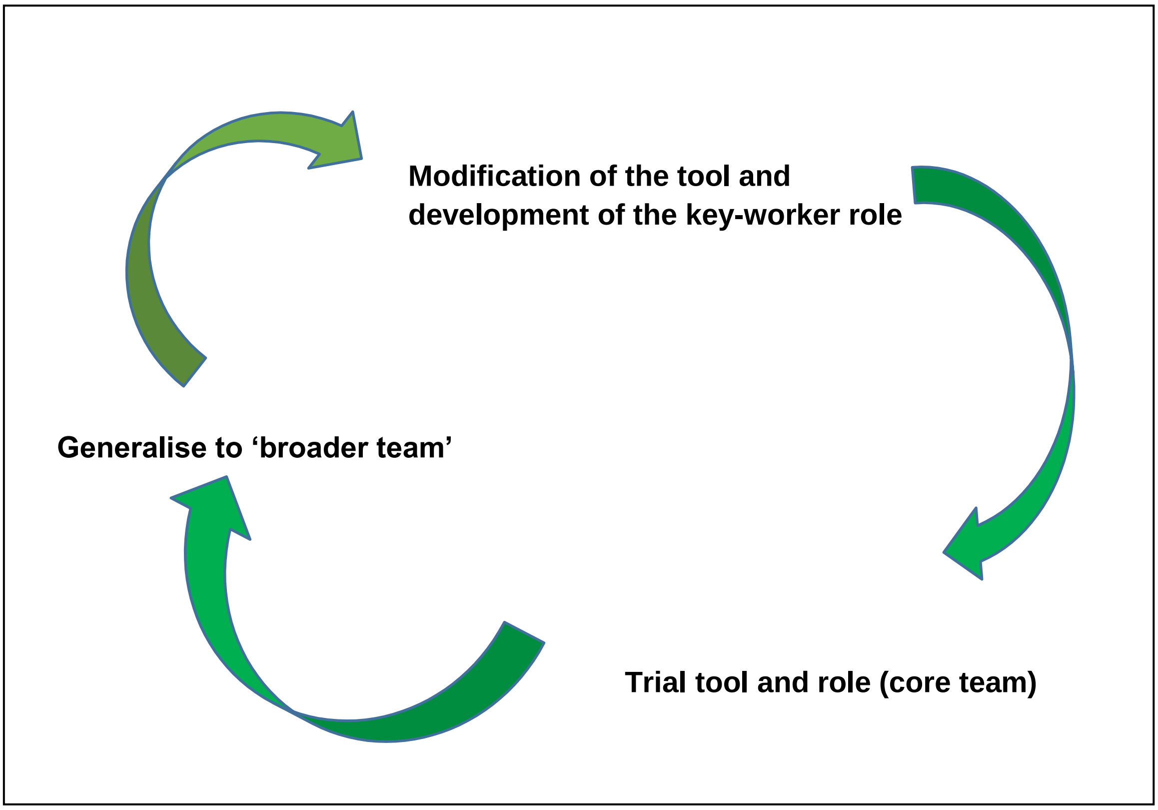


Figure 4.4. Adapting the tool for specific needs and context

4.5.1 Action: Tool and key-worker development workshop.

This method was used to examine research evidence of key-working in rehabilitation and to amend the tool to provide subjective, patient reported information. Due to the complexity of the issues the team assigned a whole day for this activity. Presentations were followed by a discussion of the issues. Data was collected via meeting minutes. Table 4.8 describes the participants.

In-patient presentation and discussion group (n= 5)	
Number	Discipline
1	Nurse
1	Occupational Therapist
3	Physiotherapists

Table 4.8 Tool and key-worker development workshop.

Reflection.

Following the workshop the participants felt they had the genesis of a tool and keyworker role that would enable them to capture the subjective experience of a patient's health and disabilities. They acknowledged that the tool and role would need further refinement prior to dissemination to the broader team.
They reflected that if they hadn't devoted sufficient time (a full day) to the dual process of developing the tool and keyworker role then progress would have been delayed.

Additionally, the participants reported satisfaction with development of the person-centred tool as it reflected their beliefs. As one team member remarked,

> '…we were doing something pretty meaningful whereas our day to day jobs we were feeling less and less clinical… it felt like you were going back to the things that you studied for.' (Interview in-patient PT Aug 2013)

These reflections accentuated the growing cultural separation between the clinicians' and the organisation's values.

Evaluation.

The participants agreed that the tool and role were sufficiently developed to commence a process of piloting and refining amongst the core members, prior to presenting the tool to the potential key-workers. They acknowledged that although the development of a person-centred tool was not an organisational priority, they elected to continue.

Findings.

The co-development of the tool and key-worker role ensured full alignment (of instrument and practice) as the needs of both could be addressed in the same development process. The protocol (for applying the tool) put the ‘patient’s voice first’ (In-patient meeting notes, May 2012) by ensuring that their preferences and concerns were prioritised. The process then recommended that clinicians assessed those areas identified by the patient to devise a realistic goal and treatment plan. This synthesised both subjective report and objective measurement into a comprehensive plan reflecting the BPS basis of the ICF. The setting facilitated this by providing ready access to the MDT and patient.

The team’s use of the ICF effectively turned the framework ‘upside down’ by prioritising patient’s subjective reports above clinicians’ objective measurement. Currently this is not advocated by the WHO (WHO, 2001) and therefore it could be debated as to whether the tool adheres to ICF principles. This is significant as, whilst not following the WHO strictures, it may address a persistent criticism of the ICF that it is not person centred (Whalley Hammell 2004) and remains wedded to a bio-medical model (Conti-Becker 2009). The fusion of subjective and objective data, within a single tool, may go some way towards bridging the divide between the medical and social models of disability and therefore could generate a genuine BPS approach, reflecting the theoretical underpinning of the ICF.

4.5.2 Subsequent actions: Piloting and clinical application.

The core team undertook a process of applying, feeding back and modifying the tool, following which the participants agreed to commence training (the broader team) in the application of the tool and role of the keyworker.

4.5.3 Action: Training and application.

Training through regular team meetings and supervision was provided by the core participants to introduce the key-worker role and tool to the broader team. This process varied across participants. Data was collected through minutes from two meetings and reflective diary/ field notes.

Reflection.

The core team members recognised that the process of training and dissemination was partial and variable, due to the constraints on staff. They reflected that ideally the training should have been universal for all key-workers.

Evaluation.

Application of the tool (by the keyworkers) exposed the underdevelopment of the personal factors component of the tool and the impact on the delivery of PCP. It was therefore agreed that the personal factors section of the tool required development.

Findings.

These actions enabled nurses to become integral in the rehabilitation process as key-workers with the discrete role of advocating for patients, further strengthening PCP. This advocate role was supported by administration of the tool; as one participant noted,

> 'It's impossible not to get to know your patient as a key-worker'
> (reflective diary November, 2012)

Dissemination of the tool across the broader team enabled an expansion of 'moments' to an embryonic 'culture' of PCP across the whole team. This cultural development promoted a consistency of practice across the team.

Preliminary findings from the key-workers indicated a need to further develop the personal factors component of the tool.

4.5.4 In-patient action cycle 3: Summary.

This action cycle explored ways to target the use of the ICF and enhance its utility. The results indicated that this was influenced by the constraints on the participants and requirements of the context of practice. The team developed a patient-centred instrument that incorporated nursing staff, strengthened communication between patients and clinicians and complimented, as opposed to duplicated, current practice. This led to a universal tool being applied to all patients in a similar manner. These findings suggested that the ICF can be modified to reflect the specific needs of individual teams within their context of practice. One component that needed development was the personal factors. The next section will consider this development.

4.6 Innovation phase Action cycle 4: Developing the Personal Factors.

Figure 4.5 illustrates the process of developing personal factors. This led to: identification of those personal aspects pertinent to the context of practice; recognition of the difficulties of capturing this information and; appreciation of the need to act on personal factors to strengthen person-centred practice (PCP).

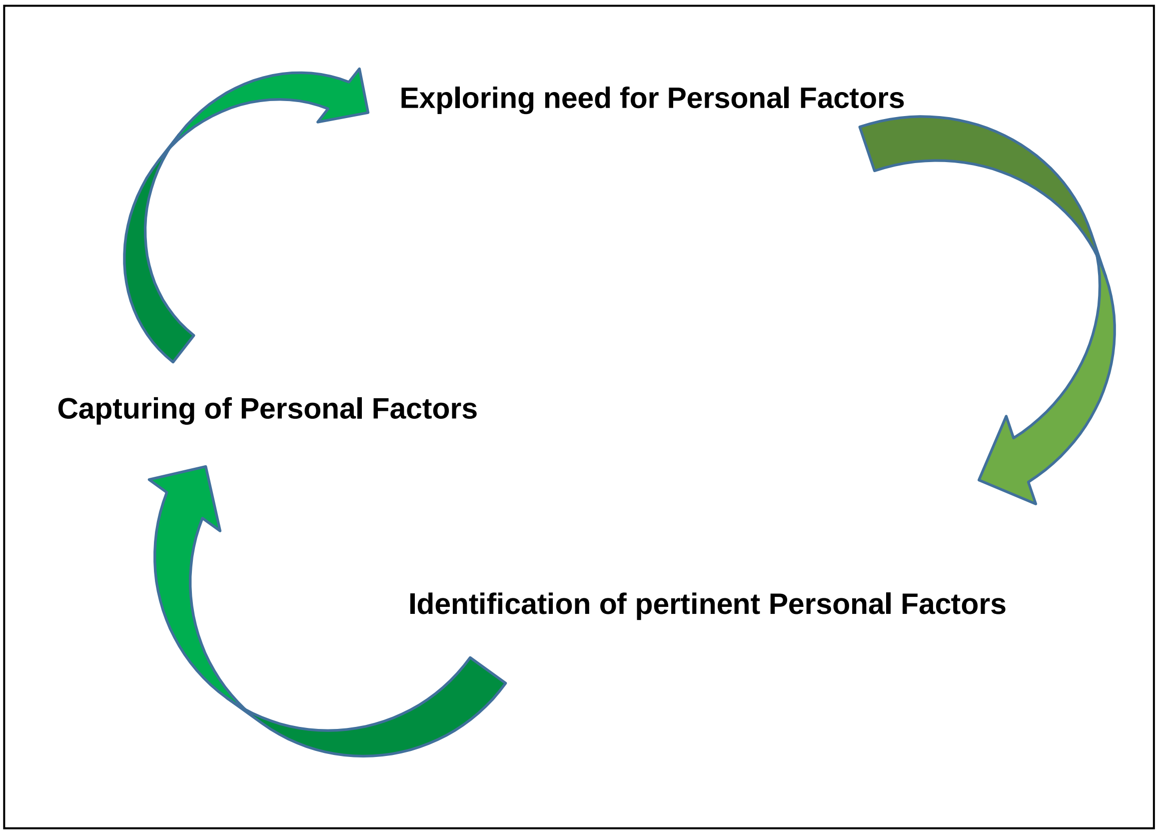


Figure 4.5 Developing the Personal Factors.

4.6.1 Action: Review of previous clinical cases.

Four core participants (see table 4.9) reviewed pre-existing cases, using the personal factors monitoring form. This process examined the significance of personal factors, identified those pertinent to the teams practice and devised questions to explore these factors. The questions were then incorporated and trialled as part of the tool.

In-patient presentation and discussion group (n= 5)	
Number	Discipline
1	Nurse
1	Occupational Therapist
3	Physiotherapists

Table 4.9 Personal factors development participants.

Reflection.

The participants acknowledged that it would have been beneficial to include all keyworkers in the development of the personal factors. They acknowledged that due to capacity issues inclusion would have been both problematic and led to a delay in the developments process.

Evaluation.

The core team decided to incorporate the questions into the tool and pilot across all keyworkers.

Findings.

The development of the personal factors reflected the context of practice and purpose of the instrument. Two specific areas of investigation were identified with corresponding questions (see table 4.10).

PF areas to be explored additional to ICF suggestions	Methods of collecting PF data
Engaging in rehabilitation.	How do you think you will manage with engaging in in-patient rehabilitation? Do you have any immediate concerns? If so, what are they? What aspects of your personality do you think will either help or limit you as an in-patient e.g. liking my own routine, wanting privacy etc?
Managing limitations to your health.	What aspects of your personality will either help or limit you managing any limitations to your health e.g. feeling in control, previous experience of ill health etc?

Table 4.10 Personal factors selected and methods to capture the data

The team were interested in personal factors that would impact on residential rehabilitation and adapting to an enduring health condition. As one participant noted,

> ‘Often it’s only after a week or two that we realise a patient has never lived outside their immediate family and that’s the reason they’re not progressing’ (In-patient summary, Aug 2012).

These findings indicated that the selection and method of capturing personal factors are contextually dependent, reflecting the WHO’s acknowledgment of the ‘large social and cultural variance associated with personal factors’ (WHO, 2001 p8) and therefore need to be locally devised.

4.6.2 Subsequent actions: Piloting.

The core team members disseminated the modified tool (with the new personal factor section) to the broad team through a process of meetings and supervision. Subsequently, they reported concerns expressed by some key-workers around the intrusive nature of the questions, as one noted,

> ‘Additional skills are needed to discuss potentially emotive subjects’. (In-patient summary Oct, 2012).

This led to a recognition of the need for additional support and training for the key-workers.

4.6.3 Action: Training and discussion groups.

Joint training sessions were developed to support key-workers to explore personal factors. These meetings had the multiple aims of: outlining the history and rationale of the project and personal factors section, presenting evidence around effective communication and identifying the issues impacting on exploring personal factors and generating possible solutions. The methods employed were a presentation, discussion groups and case vignettes. The case vignettes (exploring sensitive issues) were derived via contemporaneous feedback from the presentation and discussion group. The examples were drawn from those identified as challenging by participants and then potential solutions were discussed (appendix D4). Data was collected via meeting minutes. These groups were developed and delivered by the lead researcher, a physiotherapist from the core team and a clinical psychologist. The content of the meeting was derived from feedback given to the core team members. These sessions were available to all key-working staff and were held twice to enable all shift-based staff to attend. Fifteen staff attended the sessions drawn from the nursing and therapy professions (see table 4.11).

Personal factors discussion group 1 (n=7)	
Number	Discipline
1	Health Care Assistant
2	Nurses
2	Occupational therapists
2	Physiotherapists
Personal factors discussion group 2 (n=8)	
Number	Discipline
2	Health Care Assistants
1	Nurse
2	Occupational therapists
1	Physiotherapists
1	Speech and Language Therapist
1	Psychologist
	Rehabilitation Assistants

Table 4.11 Participants at the personal factor discussion groups.

Reflection.

Following the presentation and discussion groups the members acknowledged the need and value of exploring issues associated with capturing personal factors. Some participants (from outside the core team) expressed disappointment that they had been asked to address these factors without sufficient explanation or training. Whilst others acknowledged the value of the training,

> ‘It helped to understand why we’re being asked to do this and how it might help the patient’ (Key-worker Reflective diary March 2013).

These reflections highlighted the importance of involving all key-workers in understanding the nature and rationale for the tools.

Evaluation.

Following the groups the core team members decided that they wanted to evaluate the effect of the sessions to ascertain whether further actions were required. They agreed to do this through a questionnaire.

Findings.

Findings derived from the meeting minutes identified the need for additional skills and support to investigate personal factors. Additionally the requirement to include all staff involved in administering the tool in the development process was highlighted.

The key-workers expressed their support for not being compelled to explore (sensitive) issues within a defined time, as one noted,

> ‘Need rapport to ask certain questions e.g. around sexuality or isolation, this is at odds with protocol of completion within first five days’. (Key-worker tool training feedback April 2013)

This statement illustrated the need to allow flexibility and judgement when addressing potentially sensitive issues such as personal factors.

Subsequent to the training a questionnaire was used to examine the effect of the training on the use of the tool and to identify any further requirements. Following the additional training, a key-worker (from outside the core team) observed that,

> ‘I now feel more comfortable asking personal questions (Key-worker tool training feedback, April 2013).

Whilst another endorsed the value of exploring these factors, stating that they,

> ‘Capture the patient’s perception… ensures that the key-worker ‘knows the person’ (Key-worker tool training feedback, April 2013).

These observations suggested that with the combination of a modified tool and enhanced inter-personal skills effective investigation of personal factors can be achieved, potentially enhancing PCP.

4.6.4 In-patient action cycle 4: Summary.

These findings indicated that through a planned multifactorial approach personal factors are amenable to exploration. This is of significance as the underdevelopment and methodological issues associated with personal factors, has resulted in this area of the ICF being inconsistently applied and often omitted (Muller and Geyh, 2014).

These results suggested that personal factors can be tackled, although this requires considerable effort to ensure they are: selected to address the specific context of practice; amenable to change and; that clinicians are confident in their ability to address these issues.

4.7 Evaluation phase: Action cycle 5: Embedding in practice.

The final action cycle focused on evaluating the ongoing use and perceived value of the tool. This section describes the discrete actions undertaken (in the final phase) to evaluate the tool's use (see figure 4.6).

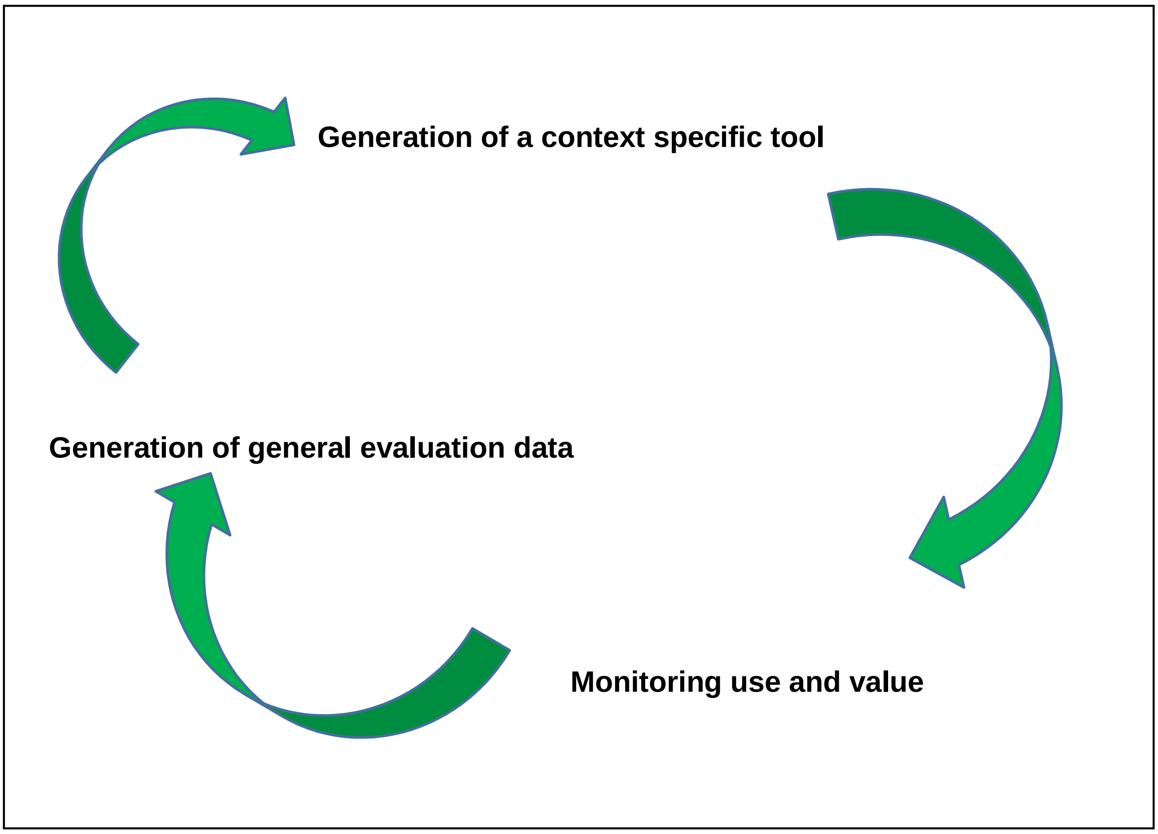


Figure 4.6 Embedding in practice.

4.7.1 Action: Liaison with the core team.

Following completion of the innovation phase ongoing monitoring of the application and value of the tool was carried out via regular email contact. The agreement was that the team request additional contact with the lead researcher if required. This phase lasted approximately three months. The lead researcher was not asked to meet with the team. During this period two of the core team members left their jobs within the organisation.

Reflection.

Following completion of the final innovative action cycle the core team agreed that the tool (appendix D2) should be embedded into practice without further significant revision. They therefore decided to only update the lead researcher if they experienced major problems.

Evaluation.

The team determined to embed the tool into practice without further modification.

Findings.

The in-patient team's ability to find a specific use for the tool and embed it into the key-worker role created sufficient need and precedent for consistent, resilient use. This resilience was demonstrated when a new manager excluded the nurses from directly using the tool. Whilst this was a set back the use continued, possibly as its value had been established and it had already been embedded into practice.

Email feedback (during the three month monitoring period) was generally favourable with a participant endorsing its use in the in-patient team,

> 'I have used it and really like it' (Email in-patient PT June 2013).

Whilst another with a broader remit had introduced it to a new (similar) unit,

> 'I have got A (new in-patient unit) staff starting to use amended tool too – can't say it's "embedded" yet but getting there- feedback is positive' (Email in-patient PT June 2013).

These statements revealed that the tool had utility both within the original setting and the potential to be applied to a similar context of practice.

The sustained use of the tools (across both the in-patient and neurology teams) and effect on practice will be addressed in future sections of the thesis.

4.8 Neurology exploration phase: Action cycle 1: Understanding the ICF and its possible uses.

See 4.3 for a description of this action cycle, Figure 4.7 provides a pictorial account of the process.

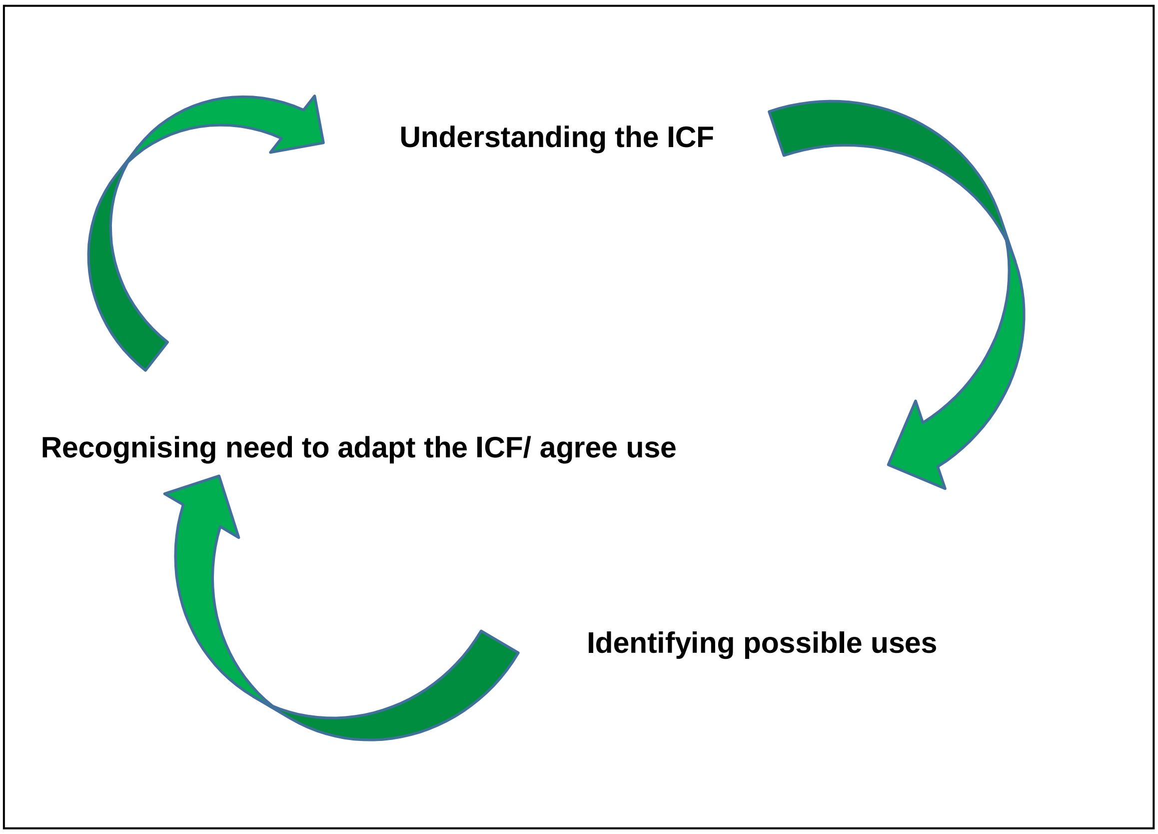


Figure 4.7 Understanding the ICF and its possible uses.

4.8.1 Action: Case vignettes.

See 4.3.1 for a description of this action. Table 4.12 presents the participants.

Neurology (n=13)	
Number	Discipline
5	Physiotherapists
3	Occupational therapists
1	Rehabilitation Assistant.
1	Psychologist
1	Dietician
2	Speech and language Therapist

Table 4.12. Participants exploring case vignettes.

Reflection.

The team commented on the complexity and length of the framework and acknowledged their varied knowledge, experience and confidence when using the ICF in practice. They also reflected that the specific focus of application had not yet been determined.

Evaluation.

The participants determined to further examine their shared knowledge, experience and confidence of the ICF to inform future actions e.g. potential application of the framework. They agreed to further explore the ICF categories and to investigate the use of core sets to address the issue of the ICF's complexity and length.

Findings.

Results from the vignettes identified categorising each ICF item to the 'deepest' (fourth level) was not viable as it 'took too long'. Additionally, it was recognised that some items were unnecessary for the patient population e.g. detailed descriptions of genitourinary functions, whilst others did not provide sufficient detail e.g. gait pattern functions. These findings indicated that for utility the ICF needs to be modified to reflect the specific context of practice. They also challenged the WHO's recommendation that rehabilitation services categorise (all items) to the fourth level and revealed the insufficient detail of some ICF items.

4.8.2 Action: Questionnaire and discussion group.

A questionnaire investigating knowledge and confidence in using the ICF was given to all team members (see table 4.13) at the beginning of a discussion group to collect data and facilitate a discussion.

Questionnaire and discussion group participants (n=15)	
Number	Discipline
6	Physiotherapists
3	Occupational therapists
2	Speech and language Therapist
1	Rehabilitation Assistant.
1	Psychologist
1	Dietician
1	Podiatrist

Table 4.13 Questionnaire and discussion group participants.

Reflection.

The team reflected on the variation of knowledge, confidence and use of the ICF across the team. They acknowledged that this expertise was primarily implicit, as there were no current methods available to share ICF analysis.

Evaluation.

The participants agreed to further explore how the ICF could be modified and used to enhance their practice. It was decided that examining how participants' clinically reason may assist in the identification of a focus for the ICF.

Findings.

Questionnaire results indicated regular use of the framework despite limited knowledge and confidence (see table 4.14).

Feature	Findings (n=15)
Regular use of the ICF	12 respondents
Limitation in knowledge & experience of the ICF	10 respondents
Confidence to use the ICF	37% (visual analogue scale)

Table 4.14 Neurology team use and knowledge of the ICF

These findings appeared contradictory with 12 out of 15 respondents stating they used the ICF, whilst 10 reported limitation of knowledge and experience affecting their confidence. These results suggested that the ICF was being employed without a full understanding of the framework, demands associated with its introduction into practice or potential of the ICF to enhance practice. The early impressions of the framework's complexity also influenced participants' appraisal of its potential use,

> '…it (the ICF language) wasn't straight forward and didn't make sense' (Interview neurology OT Nov 2013)

Whilst the initial impressions of the ICF were generally not favourable and knowledge partial, participants became aware that the framework had the capacity for modification.

4.8.3 Action: Focus group.

The development, delivery and analysis of the method was based on those of Morgan (1996) and used to explore and share individual's perspectives on clinical reasoning. The group consisted of thirteen participants (see table 4.15) and lasted for 104 minutes.

Number	Discipline
4	Physiotherapists
3	Occupational therapists
2	Speech and language Therapist
2	Rehabilitation Assistant.
1	Psychologist
1	Dietician

Table 4.15 Focus group participants.

The participants were provided with a number of definitions and statements exploring: the definition; process and value of clinical reasoning drawn from the literature. In small groups they considered each statement or definition and ranked them in order of agreement. Each group was then asked to present their conclusions to all the participants, leading to a general discussion. This process was repeated for each of the areas under consideration (appendix C3).

Reflection.

The participants acknowledged the complexity of clinical reasoning and variation in practice across individual team members. They also reflected on the opportunity the focus group provided to explore different member's perspectives on clinical reasoning.

Evaluation.

The team decided to examine current clinical reasoning within the team to inform them as to how the ICF may augment their collective reasoning and therefore the purpose of any future tool.

Findings.

Table 4.16 presents the findings as either the ‘inputs’ (data required to clinically reason) or ‘outputs’ (the information to transmit to others e.g. patients or other MDT members), generated from the focus group. These findings were produced by the lead researcher to present knowledge-in-practice data for the participants, through semantic thematic analysis of the transcript data and categorised as per ‘inputs’ or ‘outputs’.

Inputs to clinical reasoning	Outputs from clinical reasoning
• Clients’ previous memories and experiences. • Clients’ ability to communicate desires and needs. • Clients interest • Client preferences and opinions • Use of reliable measurement. • Use of evidenced based research • Input from the client but mediated by the therapist. • Consensus between therapist and client. • Therapist’s opinions. • The clients experience. • Therapists experience and previous learning. • External factors (influencing the situation). • Perceiving ‘where they are at’ • Matching participatory goals with remediation of impairment.	• How you communicate (reasoning) with your work colleagues. • Not about how we do it, but about the ability to communicate that with the client. • Know why is that the goal? The rationale and how did that come about? • Communicating goals • Thought processes and discussions. • (Currently) not defining, or expressing, or documenting how we’ve really got to that point. • Negotiation process with the client • use the ICF model as a way of communicating and negotiating with clients • Using framework to document the discussion that said for various reasons (the reasoning) indicated this intervention.

Table 4.16 Desired properties of a clinical reasoning tool: neurology team

The complexity and breadth of the focus group findings illustrated the varied and high expectations of the team regarding the ICF's potential utility. These disparate and elevated expectations may have proved a barrier to the identification of a specific focus (for the ICF) and the subsequent development of a feasible tool.

Whilst gaining detailed consensus on the mechanisms and desired outcomes of clinical reasoning, practical application remained elusive. When considering the myriad properties identified it is uncertain whether any framework is comprehensive enough to address such diverse needs as 'thought processes' and perceiving 'where they are at'.

The broad nature of the framework influenced the focus of introduction. For the team it possibly provided too many choices, exacerbating the difficulties the team experienced in gaining consensus. As one member concluded,

> '…a number of participants' commented that they remained unsure of the specific focus of the project or what the desired tool would look like' (Neurology summary Aug, 2010).

Whilst others expressed dissatisfaction with elements of the biopsychosocial (BPS) model (on which the ICF is based),

> 'I object to it strongly (to a BPS based definition of clinical reasoning)…I put my hands up I come from the medical model, that's the way I was trained' (Participant 8 focus group March, 2010).

Suggesting that the ICF may have possessed limited value for some participants.

These findings suggested that whilst the focus group had succeeded in identifying the components of clinical reasoning it had been unable to generate consensus and may have accentuated differences within the team.

4.8.4 Action: Semi-structured interviews.

This action was used to investigate the areas in which different clinicians focus their attention to identify the 'scope' of the teams reasoning and potential use of the ICF. The topic guide was developed from Sheehan, Robertson and Ormond's (2005) protocol exploring variability in reasoning within a MDT. The inclusion was that all participants were treating a common clinical case. An occupational therapist, physiotherapist and speech and language therapist participated. Each participant was interviewed to ascertain their focus of reasoning. Summary of the findings (not attributed to individual participants) were disseminated to the team.

Reflection.

The interviewees noted that the process of mapping their reasoning to the ICF had exposed the extent and variation of their clinical reasoning.

Following a brief discussion of the findings the team acknowledged that the act of reflecting on reasoning had potential clinical value through the uncovering of intrinsic knowledge.

Evaluation.

It was agreed that applying the ICF had potential value as a means of revealing implicit knowledge.

Findings.

The findings indicated that the participant’s clinical focus reflected their speciality e.g. SLT and swallowing. The areas of general attention were environmental factors e.g. the effect on the patient’s partner and children. This is significant as these areas are more subjective in nature and therefore may require enhanced communication across the MDT. Finally, the process of consciously mapping the participant’s reasoning exposed the extent of focus, shared concerns, intrinsic knowledge and change in focus over time. This exposure was valuable as it led to explicit sharing of knowledge.

4.8.5 Action: Practice application and meeting.

Six participants used the tool (appendix C2) and reflected on the trial (see table 4.17)

Number	Discipline
2	Physiotherapists
2	Occupational therapists
1	Rehabilitation Assistant.
1	Psychologist

Table 4.17 Application meeting participants.

Reflection.

The participants acknowledged their limited capacity had restricted the trial to four cases. They recognised this influenced the quality of the data available, inhibited consensus regarding the focus and practice of using the ICF and ongoing engagement in the study.

Evaluation.

The participants agreed to explore how the ICF could be modified to manage the amount of data and reflect their context of practice. Additionally, they agreed to explore ways to participate within their limited capacity.

Findings.

One case had multiple problems and the volume of information generated was considered problematic with one participant suggesting that,

> '…the amount of information recorded inhibited its ease of use'.
> (Neurology summary July, 2010).

A number of solution were suggested and subsequently rejected e.g. to limit data collection to areas specifically within a disciplines recognised expertise e.g. psychologist and cognitive/ emotional issues.

An issue specific to the neurology team was the lack of consensus regarding the focus of the ICF, exacerbating difficulties establishing clinical utility. Agreed amendments to the tool and its protocol included: more specific criteria to reflect the patient population and team's practice and simplifying the ICF terminology. Adaptation to the protocol included: a greater understanding of and access to the ICF and; precise arrangements as to when the tool is used.

These recommendations were influenced by the level of agreement on the purpose of the tool. With the neurology team these suggestions remained generic as the team was still unsure of the ultimate aim of the tool.

4.8.6 Neurology action cycle 1: Summary.

This action cycle explored knowledge and application of the ICF leading to a general recognition that the framework needed modification. Additionally, the wide-ranging nature of the ICF and varied opinions within the team led to difficulties gaining consensus around the value of the ICF or a specific focus for its clinical application. The motivation to adapt the ICF was influenced by this lack of agreement.

The next section will examine how the organisational environment influenced the team's introduction of the ICF.

4.9 Neurology innovation phase: Action cycle 2: Adapting the ICF for clinical use.

See 4.4 for a description of this action cycle, Figure 4.18 provides a pictorial account of the process.

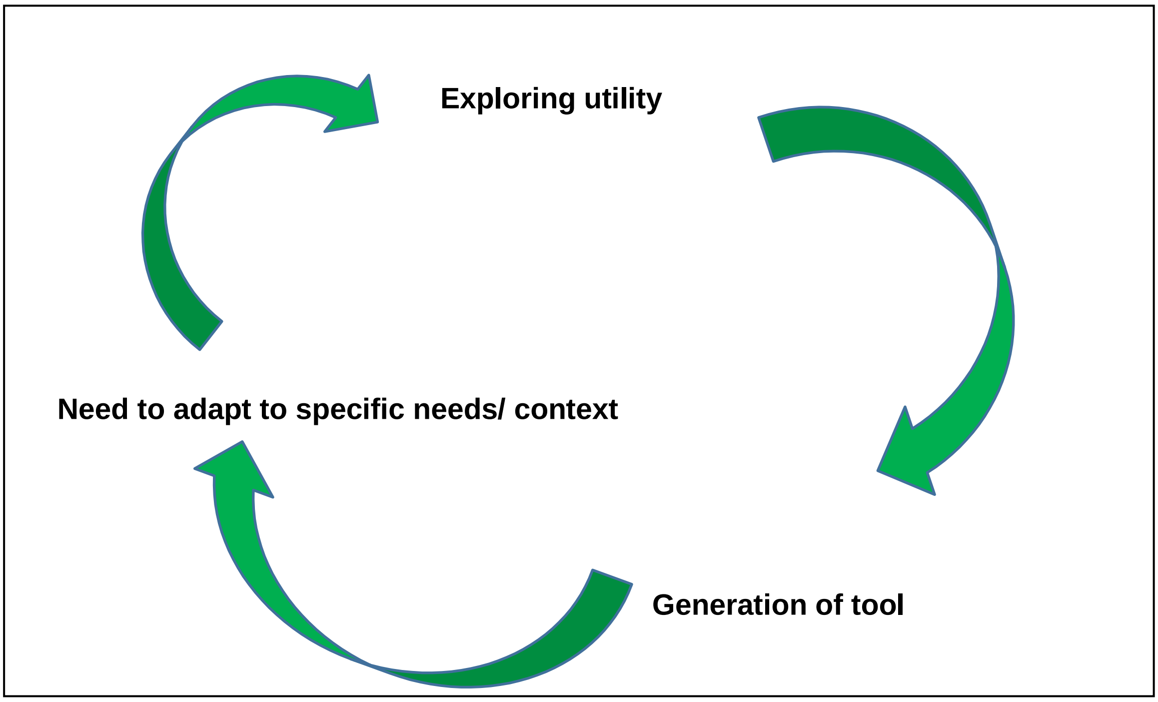


Figure 4.18 Adapting the ICF for clinical use.

4.9.1 Generation of a tool: developing a core set.

The development of a core set was complex and required a sequence of events. Figure 4.8 illustrates the collaborative spiral of planning, acting, observing, reflecting and re-planning (Meyer, 2000) required to explore the development of a core sets.

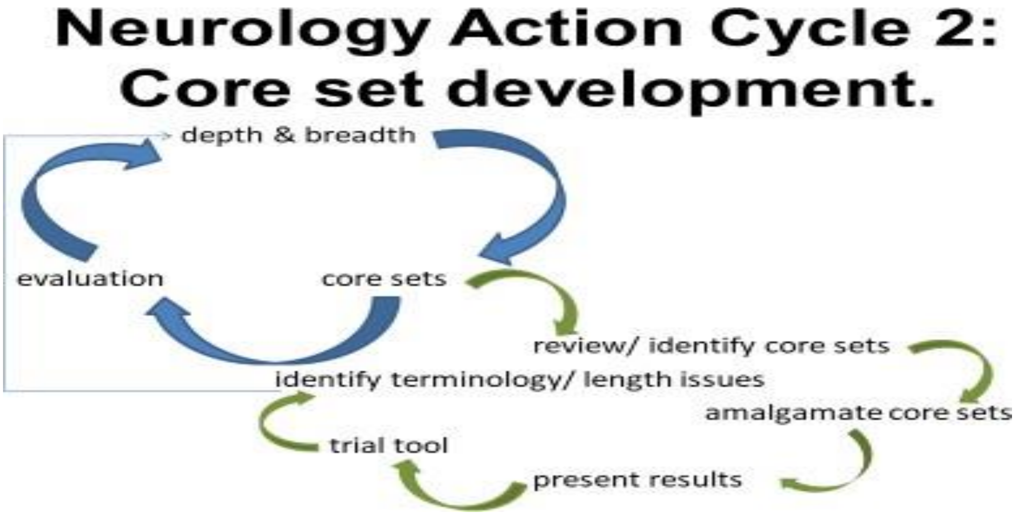


Figure 4.8 collaborative spiral investigating the use of core sets

4.9.2 Action: Presentation and discussion groups.

Following application it was acknowledged that the ICF items pertinent to the team's practice needed to be identified. The lead researcher was tasked to investigate all core sets to identify those that may be applicable. The team subsequently chose to explore the stroke and multiple sclerosis core sets. The lead researcher was asked to amalgamate the selected sets. This was carried out and the results presented to the team (see table 4.19)

Number	Discipline
5	Physiotherapists
4	Occupational therapists
2	Speech and Language Therapists
2	Rehabilitation Assistant.
1	Psychologist
1	Podiatrist

Table 4.19 Core set presentation participants.

Reflection.

The team reflected on the need for the core sets to mirror the whole patient population e.g. single incident and progressive conditions and therefore the requirement to combine core sets.

Evaluation.

The team agreed that the combined core set constituted a valid basis for a tool and to further amend the ICF items by identifying any potential additions, removals, ambiguities or re-categorisations.

Findings.

The amalgamation indicated that core sets can be selected and combined to generate a tool reflecting the context of practice. Additionally, clinical utility can be achieved through this process as it generates a feasible number of items (see table 4.20).

Body function items	Body structure items	Activity & Participation items
52	11	62

Table 4.20 Selection of ICF items

4.9.3 Action: Mapping ICF items to specific disciplines requirements.

In a mapping exercise, a member of each discipline (physiotherapy, occupational therapy, speech and language therapy and psychology) reviewed the core set items to identify whether they required clarification, expansion, reduction or omission. Once areas requiring further consideration had been identified e.g. fluency and rhythm of speech functions, they met with the lead researcher to identify additional ICF items covering the omitted area or recommend changes to the terminology. These were then incorporated into the tool.

Reflection.

The participants involved in the mapping exercise expressed frustration with the ambiguity of the language perpetuating the impression of the ICF as being complex. One contributor noted that the opportunity to examine the ICF had resulted in a deeper understanding of the schema.

Evaluation.

The team agreed that the modifications had enhanced utility and endorsed the amendments. Feedback from the participants (involved in the mapping exercise) led to the team determining to further revise the ICF language.

Findings.

The team's amendments included additions, removals, redefining of ambiguities and re-categorisations of ICF items. Whilst some uncertainties were resolved following further scrutiny of the ICF e.g. swallowing, the requirement for significant amendments and additional analysis of the framework does question the ICF's utility.

For certain items such as reception of language, second level categorisation was deemed insufficient, whereas for the majority this degree of detail was adequate. This suggested that the ICF should be adapted to local needs rather than adhere to global guidelines (such as those required by the WHO) as this may result in non-adherence (to the ICF) due to either under or over detailed analysis.

4.9.4 Subsequent actions: Revising the language.

The team decided to revise the language of the framework. In essence a process of changing the language as it was encountered was adopted. This resulted in an awareness that the ICF was modifiable and increased confidence in its use.

4.9.5 Action: Piloting and clinical application.

This action was undertaken following the previous changes to examine how the tool may be applied. The team agreed to pilot the tool and then evaluate following ten applications. Time constraints altered these arrangements, resulting in the team agreeing that the lead researcher should attend weekly goal setting meetings, facilitate the use of the tool and simultaneously collect feedback. The tool was applied to ten individual cases over four separated occasions (see table 4.21).

Application	Number	Discipline
1	1 1 1 1	Occupational Therapist* Physiotherapist Rehabilitation Assistant Speech and Language Therapist
2	1 1 1	Occupational Therapist Physiotherapist Psychologist*
3	1 1	Occupational Therapist* Physiotherapist
4	1 1 1 1 1	Dietician Occupational Therapist* Physiotherapist Psychologist* Speech and Language Therapist
Key* same staff member		

Table 4.21 Participants in applying the tool

Reflection.

The participants reflected on their limited capacity leading to concerns regarding the viability of the study. The team re-iterated their wish to continue although were unsure how to proceed. Agreement on a greater role for the lead researcher (in the application of the tool) resulted in concerns regarding potential bias and undermining of rigor. These concerns were reduced once the enhanced role of the lead researcher had been agreed.

Evaluation.

It was agreed that the lead researcher should have a greater involvement in the piloting and application phases of the process. Following evaluation the participants agreed to further modify the tool to reflect their specific needs.

Findings.

The participants expressed initial concerns regarding the balance between the tool being either too complex to use (within the limited time available) or too inconsequential to add any new knowledge,

> ‘…concerns were expressed regarding the time taken to consider each item in-depth (Neurology summary Sept 2010).
>
> ‘…it didn’t tell me anything new’ (Neurology OT reflective diary Oct, 2010)

Suggesting a dichotomy whereby the tool needs sufficient detail to add worth but must be sufficiently succinct for utility.

4.9.6 Neurology action cycle 2: Summary.

Findings from this action cycle revealed that the ICF could be modified from a generic framework to one that reflects specific practice. This process focused primarily on adapting the content and terminology of the ICF and its level of application and required considerable attention. Trialling led to a recognition that the tools needed further refinement to reflect the specific (and evolving) context of practice and to enhance precise application.

4.10 Innovation phase Action cycle 3: Adapting the tool for specific needs and context

Use of the modified tools had exposed the need for more targeted and efficient application. The context of practice evolved resulting in the tool being required to be more precise to reduce administration time, more focused (on either organisational or team priorities) and more flexible to enhance utility. This section will present the action cycle carried out to address these issues (see figure 4.9)

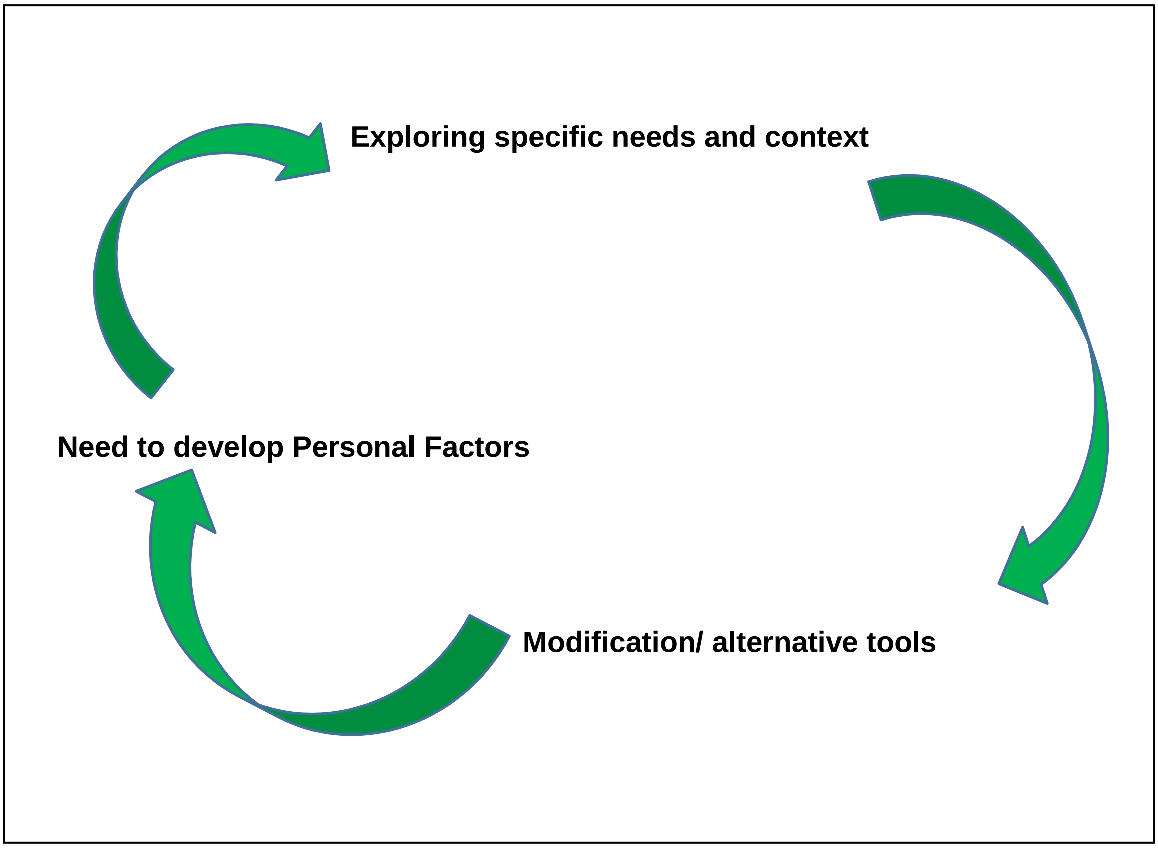


Figure 4.9 Adapting the tool for specific needs and context

4.10.1 Action: Questionnaire, presentation and discussion group.

This action involved administration of a questionnaire followed by a presentation (by the lead researcher) and discussion of the findings. These methods were used to investigate participants' impressions (following trialling) on the potential focus and use of the tool. The lead researcher developed the questionnaire based on the comments of participants regarding the use and value of the tool. Draft versions were sent to all participants asking for amendments, none were forthcoming. This approach was selected as it provided equality and anonymity of opinions and was time efficient as the findings and feedback could be synthesised prior to a focused discussion. Questionnaires (appendix D2) were sent to all team members. There were twelve respondents. Data was collected via the questionnaires and disseminated to the team.

The subsequent presentation and discussion group was used to summarise the opinions of participants as to the focus of the tool and to present questionnaire results regarding the tool's use and to gain evidence of how the ICF had been introduced into practice. Data was collected via meeting minutes. Table 4.22 describes the participants.

Number	Discipline
3	Occupational therapists
4	Physiotherapists
1	Speech and Language Therapist
2	Rehabilitation Assistants

Table 4.22 Presentation and discussion group participants.

Reflection.

The participants commented on the conflict between the tool being sensitive enough to generate new knowledge whilst being adequately succinct for utility. They also acknowledged that due to the heterogeneous nature of the patients it was not always of value. They considered various solutions to resolve the inconsistency although were unable to gain consensus.

The team expressed frustrations that they had not identified a specific use for the ICF and that the context of practice restricted their capacity to engage in the study.

Evaluation.

The participants proposed how they might use the tool: that all cases should be subject to the full instrument or that there should be a binary classification of either requiring the tool or not. The former was rejected as untenable and later as too inflexible. This resulted in the team requesting that the lead researcher should investigate evidence of brief ICF-based tools, shared his findings and devised a tool for application. Additionally, they determined to continue exploring protocols for the tools application.

Findings.

With greater knowledge of the ICF and contextual demands, the desire for flexibility grew. Whilst the tool proved beneficial for complex patients, in straightforward cases it was deemed too lengthy and in simple cases unnecessary. These findings questioned the universal application of the ICF and identified the requirement to consider alternative versions and protocols for its use.

4.10.2 Subsequent actions: development and application of an alternative tool.

An alternative (short version) of the tool was devised by the lead researcher, disseminated to all participants and applied within the goal setting meetings.

4.10.3 Action: Questionnaire, presentation and discussion group.

These actions were used to identify participants' preferences and use between the two (short and long) ICF tools (appendix D6 and 7). Questionnaires were send to all team members (appendix D3). There were nine respondents. A presentation and discussion group was used to examine the questionnaire results. Data was collected via questionnaire and minutes from the discussion group. Table 4.23 describes the participants.

Number	Discipline
4	Occupational therapists
4	Physiotherapists
2	Speech and Language Therapist
1	Psychologist
3	Rehabilitation Assistants

Table 4.23 Presentation and discussion group participants.

Reflection.

The participants reflected on the limited applications of the tool over the trial period, feeling it was due to time constraints and perceived value of the ICF. Their understanding was that the tool had two specific advantages: when clinicians were stuck or; for inexperienced therapists or students to structure their clinical reasoning. As one participants reflected,

> ‘…the tool should be used in approx 5% of cases e.g. those that are complex requiring MDT intervention’ (SLT, Neuro meeting Sept 2012).

These suggestions indicated a recognition of the (specific) value of the ICF albeit without wishing to universally adopt the framework. The team also acknowledged that the ongoing limitation of the personal factors detrimentally effected the value of the tool.

Evaluation.

The team determined to rename the tools (long and short version) to the ‘complex clinical reasoning tool’ and make it available for supervision and complex cases. Additionally, they agreed to discard any inclusion criteria for its use preferring it to be ‘drawn on when needed’.

The participants also decided to develop the tool’s personal factors components.

Findings.

These findings indicated that the ICF had limited value and application for the team. The outcomes suggested that use of the framework was dependent on the complexity of the case and experience of the clinician. This resulted in a relaxation of the protocol whereby the treating clinicians determined whether a case required administration of either the comprehensive or shortened tool or none at all. Additional recommendations included using with it students or within clinical supervision.

This desire for flexibility may have resulted from: the limited utility of the ICF; the ongoing difficulty finding a definitive purpose or protocol and; restricted capacity of the clinicians. Alternatively the flexible application of the ICF may have pragmatically enhanced utility as clinicians could adapt its use to specific circumstances.

Finally, the team’s decision to remove any reference to the ICF may have reflected their relationship to the framework whereby they acknowledge its value in structuring reasoning but did not wish to universally adopt the schema.

4.10.4 Neurology action cycle 3: Summary.

This action cycle explored ways to target the use of the ICF and enhance its utility. The heterogeneous needs of the neurology patients and requirements for a clinician used tool resulted in the need for a flexible tool for precise uses. These findings indicated that the ICF can be modified to reflect the specific needs and context of practice. One component that required development was the personal factors. The next section will consider this development.

4.11 Neurology innovation phase Action cycle 4: Developing the Personal Factors.

Figure 4.10 illustrates the process of developing personal factors. This led to: identification of those personal aspects pertinent to the context of practice; recognition of the difficulties of capturing this information and; appreciation of the need to act on personal factors to strengthen person-centred practice (PCP).

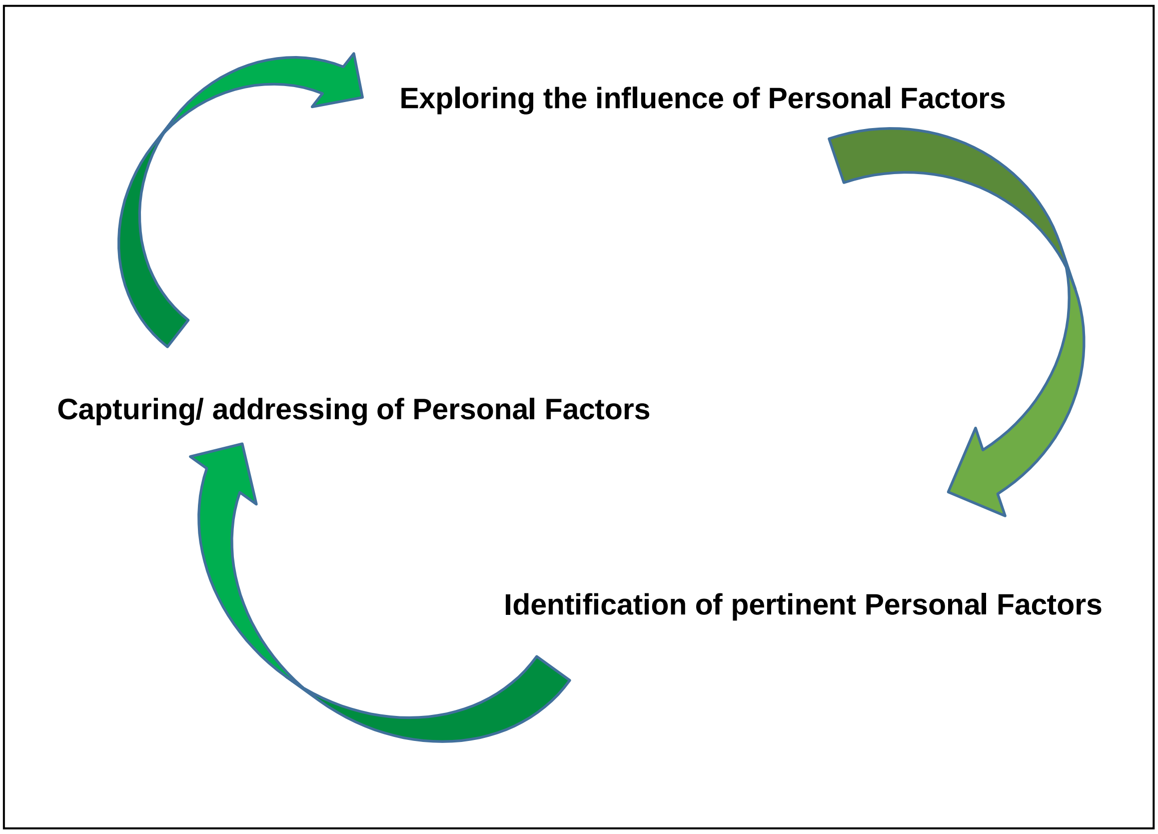


Figure 4.10 Developing the Personal Factors.

4.11.1 Action: Case studies.

This action explored the influence of personal factors on clinical reasoning. This required the development of case studies (as opposed to selecting pre-existing cases known to the participants). To ensure sufficient detail and clarity they were sent to an independent reviewer for suggested amendments prior to its use. Following this the case studies were presented to the team (see table 4.24).

Number	Discipline
3	Physiotherapists
3	Occupational therapists
2	Speech and language Therapist
1	Rehabilitation Assistant.
1	Psychologist

Table 4.24 Case study meeting participants.

The case studies were categorised according to the ICF with identical: health condition; body function and structure and; activity and participation information. The personal information such as age and gender diverged significantly. One of three different studies were distributed between smaller groups, who were unaware of the differences in the personal information. They were asked to identify the presenting problems and predict future functioning on the basis of the information provided (appendix C4).

Reflection.

Participants observed that they had not been conscious of how extensively personal factors had influenced their practice or expectations for individual patients, but there was acknowledgement that not all personal factors influenced rehabilitation outcomes to the same degree.

Evaluation.

The team elected to explore those personal factors that were both influential to the team’s outcomes and amenable to change.

Findings.

The findings indicated the (often unrecognised) significance of personal factors in clinical reasoning and are significant as they confirmed their influence on clinical reasoning.

4.11.2 Action: Training.

The team identified personal factors which they perceived as significant to rehabilitation outcomes and amenable to intervention. This process was incorporated into two existing team in-service training sessions: the team was surveyed about the significance of specific personal factors on outcomes (e.g. self-efficacy) and the evidence base to ascertain which of the identified factors were amenable to therapeutic intervention. These training sessions were designed and led by the lead researcher, a Psychologist and an Occupational Therapist. Participants are described in table 4.25. Data was collected via meeting minutes.

In-service training: Significant personal factors (n=11)	
Number	Discipline
4	Occupational therapists
3	Physiotherapists
1	Psychologist
2	Speech and Language Therapist
1	Rehabilitation Assistants
In-service training: Personal factors amenable to intervention (n=10)	
Number	Discipline
3	Occupational therapists
3	Physiotherapists
2	Speech and Language Therapist
1	Psychologist
1	Rehabilitation Assistants

Table 4.25 Personal factors selection training.

Reflection.

The participants expressed satisfaction about devising the personal factors component of the tools, although felt that they had already been addressing these aspects informally. They reflected on the ‘superfluous’ personal factors suggested by the WHO e.g. upbringing and how difficult they are to capture and influence. They were satisfied that the personal factors they had identified were significant and amenable to change.

Contributors observed the value of the training because it provided an opportunity to collectively explore factors and the evidence base around issues that are often tacit. This led to an acknowledgement of the unrecognised nature of these interventions. The participants also reflected on the need for all disciplines to explore these factors.

Evaluation.

The participants agreed to incorporate the selected personal factor into the tools and that these areas should be addressed by all disciplines.

Findings.

Table 4.26 presents the areas identified, and methods adopted, for collecting personal factors within clinical practice.

PF areas to be explored additional to ICF suggestions	Methods of collecting PF data
Mood Motivation Self-efficacy Attitude towards health professionals Beliefs Readiness Acceptance	Data collected through observation and interview from all clinicians and then discussed with MDT.

Table 4.26 PFs selected for examination and methods to capture the data

The team's focus were those personal factors that were pertinent to long-term management of neurological disabilities (in the community), and amenable to therapeutic intervention.

> 'If we're going to tackle personal factors then it's got to be ones
> we can influence' (Reflective diary, July 2012).

These findings replicated those of the in-patient team regarding the contextual influence and need for personal factors to be locally devised. The results also implied that the capturing of personal factors is not limited to specific disciplines. The findings illustrated a method of selecting bespoke personal factors therefore addressing one of the problems associated with incorporating them into the ICF.

4.11.3 Neurology action cycle 4: Summary.

This action cycle identified personal factors that were significant and amenable to change within the context of the team’s practice. It provided the opportunity for participants to collectively explore, review the evidence base and find consensus on these issues. The consistency of application in practice was not established.

4.12 Neurology evaluation phase: Action cycle 5: Embedding in practice.

See 4.7 for a description of this action cycle, Figure 4.11 provides a pictorial account of the process.

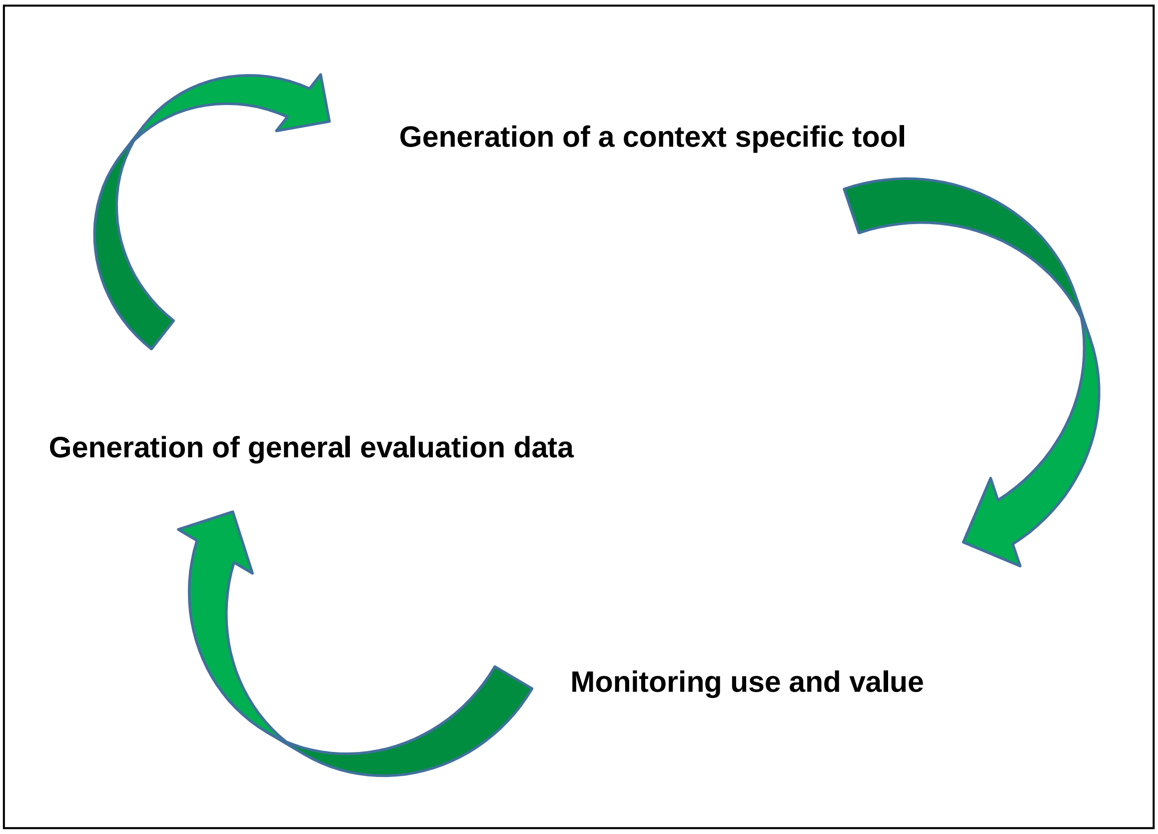


Figure 4.11 Embedding in practice.

4.12.1 Action: Communication with the team.

Following completion of the innovation phase ongoing monitoring of the application and value of the tool was carried out via informal observations and discussions with the lead researcher (who was now a team member). This phase lasted approximately three months.

Reflection.

Reflections suggested limited use of the ICF tools.

Evaluation.

Following completion of the final innovative action cycle the team agreed that their formal engagement in the study should cease and the tool should be used when required without further revision.

Findings.

Following the conclusion of the innovation phase's one team member (who had participated throughout the study) remarked,

> 'I don't think it will be very useable at all in clinical practice' (Interview neurology OT Nov, 2013).

Whilst this comment suggested that the introduction of the ICF had been ineffective the tacit influence on BPS clinical reasoning and PCP within the team was more nuanced. The sustained use of the tools (across both the in-patient and neurology teams) and effect on practice will be addressed in future sections.

4.13 Both teams: Capturing participants' reflections.

The two data collection methods used were semi-structured interviews of the participants and a review of the field notes and reflective diaries.

4.13.1 Semi-structured interviews.

Five follow up interviews were undertaken with two occupational therapists from the neurology team and two physiotherapists and a nurse from the in-patient team. The interviews lasted between 43 and 84 minutes.

These interviews were designed to examine the following:

- The experience of the action research process and those factors that acted as either facilitators or barriers to carrying out change in clinical practice.

- The opinion of the ICF and its use in clinical practice.

The interviewees were provided with the aims of the interviews and informed that they would be recorded and that their anonymity would be maintained. They were then asked to provide consent for the interview to take place. The interview was conducted as *per* the topic guide (appendix E1) that was developed to investigate participant's judgements on the processes, outcomes and key factors that influenced the introduction of the ICF into practice. The interviews were then transcribed (appendix E2).

4.13.2 Field notes/ reflective diary.

Contemporaneous notes were taken throughout the study to enable both continuous and enduring reflection. Following the conclusion of the study they were reviewed to examine the relationship of the lead researcher and participants to the study e.g. reflections on the ICF; action research and; the context of practice.

4.14 Action Cycles: conclusion.

Figure 4.12 illustrates the action cycles carried out by both teams. Whilst the cycles are the same the actions, reflections, evaluations and findings differ reflecting the different needs, culture and context of each team. Figure 4.12 demonstrates the relationship between the development of a clinical tool (based upon the ICF) and the generation of biopsychosocial (BPS) clinical reasoning and subsequent influence on PCP. It postulates that through use of the ICF, BPS reasoning is enhanced resulting in enriched PCP and that this process can then become self-perpetuating. The mechanisms for this process will be examined in the next section and within the discussion chapter.

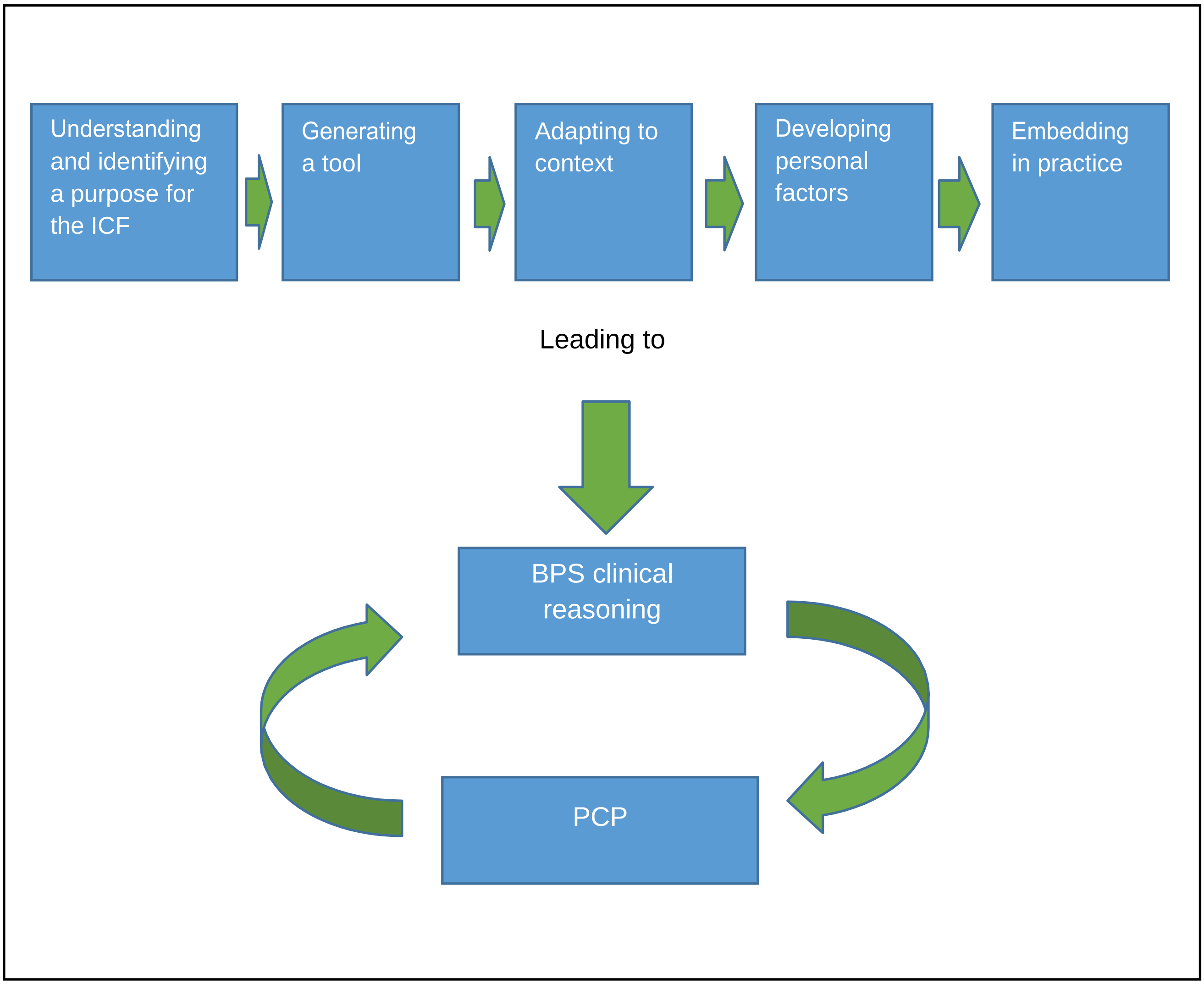


Figure 4.12 Action Cycles and promotion of BPS clinical reasoning and PCP.

4.15 General findings.

This section will consider the general evaluation data generated from the process of immersion and thematic analysis (see 4.8.3) that followed the conclusion of the action phases. These forms of knowledge generation will also be incorporated into the discussion chapter that will address theoretical issues in greater detail.

4.15.1 Levels of data analysis.

This section describes the methods of analysis for the different types of data collected. Due to the iterative and cyclical nature of action research and desire for praxis the data was analyzed on two levels: the first was simultaneously carried out as the study evolved in order to generate 'knowledge-in-practice' to inform subsequent phases. This data was presented in the previous section.

The second was undertaken at the end of the project following a process of 'immersion' in the whole data set (Tracy, 2013). This process enabled the researcher to reflect on the complete data set to consolidate the overall findings and analyse the 'knowledge-in-theory' data. This knowledge encapsulates the theoretical learning required to evaluate the processes and outcomes of implementing the ICF into clinical practice. In addition it satisfies the need of action research to simultaneously examine the processes and outcomes of change whilst developing theory and enhancing individual and organizational learning (Meyer, 2006).

A number of different approaches were employed to analyse the knowledge-in-practice findings reflecting the original methods used (see table 4.27), whilst the knowledge-in-theory was explored using qualitative analysis. Quinn (2005) proposed that qualitative research is well suited for understanding phenomena within their context, uncovering links among concepts and behaviours, and generating and refining theory. Therefore the subsequent process of qualitative analysis must provide a systematic synthesis to generate knowledge and understanding of the phenomenon under study (Downe-Wamboldt 1992). In this study thematic analysis was the chosen method due to its flexible and pragmatic approach (Braun and Clarke 2006).

Methods used	**Type of analysis**
Exploratory phase	
Minutes of meetings.	Inductive thematic analysis
Field notes/ reflective diary	Inductive thematic analysis
Focus group and interviews transcripts	Inductive thematic analysis
Questionnaires.	Quantitative, descriptive statistics to rate agreement and practice *and* Qualitative, inductive thematic analysis.
Innovation phase	
Minutes of meetings.	Inductive thematic analysis
Field notes/ reflective diary	Inductive thematic analysis
Document audit	Deductive content analysis
Mapping ICF items.	Deductive, content analysis: 'mapping' predetermined core sets in practice
Questionnaire.	Quantitative, descriptive stats to rate agreement and practice *and* Qualitative, inductive thematic analysis
Evaluation phase	
Semi- structured interviews.	Inductive thematic analysis
Field notes/ reflective diary.	Inductive thematic analysis
Minutes of meetings.	Inductive thematic analysis

Table 4.27 Methods of analysis.

4.15.2 Thematic analysis.

Thematic analysis was the chosen method for this study as it provided a systematic way of organising, analysing and describing the data set (Braun and Clarke, 2006).

As advocated by the authors a number of decisions needed to be made prior to thematic analysis of the data (Braun and Clarke, 2006). Decisions pertinent to this study were whether the analysis should be 'inductive (coding the data outside a pre-existing theoretical framework) or 'theoretical' (analysis driven by a theoretical interest) and whether the themes should be 'semantic' (the explicit or surface meanings of the data) or 'latent' (the underlying ideas and concepts that are considered as shaping the content of the data). These decisions were based on a number of factors: the level of knowledge surrounding the issue being explored (in this case the ICF) and; the level- explicit or interpretive- at which themes are to be identified. As there remains limited knowledge surrounding the application of the ICF (and therefore a restricted theory) and the study aimed to explore the underlying ideas, assumptions, and conceptualizations associated with the ICF an inductive and latent approach was taken to the data.

4.15.3 Process of analysis.

Braun and Clark describe six key phases of thematic analysis, with each phase used to find ‘repeated patterns of meaning’ (Braun and Clarke 2006, p15). These phases involve: familiarising yourself with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and lastly producing the final analysis in a scholarly form (Braun and Clarke, 2006). To ensure this thematic analysis occurred in a systematic manner, each of the six steps were duly completed (an additional step is listed addressing knowledge in practice- see table 4.28) Initially, the completed data set (comprising of seventy-two individual data items) was organised chronologically into the two different action research teams. Next, a thorough review of all the data items was carried out to ensure familiarisation with the content, and summary documents were generated for each. Each summary document was then manually coded with additional notes generated and pertinent content highlighted producing 506 codes (see appendix C for an example of coding). Eighteen emerging candidate and sub-themes were identified from the codes through an initial process of producing ‘theme piles’ (Braun and Clarke, 2006). These candidate and sub-themes were subjected to supplementary phases of thematic mapping (appendix E3 and 4). Further reviewing to establish the internal homogeneity, external heterogeneity and size of each theme led to a refining of the themes down to a final nine.

Phase	**Method and evidence**	**Notes**
Generate ‘knowledge-in-practice’ findings	Analysis of data to inform subsequent actions (see table 4.17)	Sufficient analysis to enable praxis. Authenticity of findings through dissemination to participants.
1. Familiarising with the data	All data items organised by team and year. Methodology trialled: • Participant relationship with ICF and environment. • Thematic analysis (Braun & Clarke, 2006)	Enable effective analysis/ commence immersion and reflection on the data
2. Generating initial codes	Analysis of data items (n= 72) generating codes (n= 506) & notes. Latent/ inductive approach. Labelled codes/ notes to specific data items prior to generating theme piles (see appendix D*) **example of coding in appendix D2 follow up interview*	Large data set with diverse themes.
3. Searching for themes	Theme piles: Generated 18 potential themes and sub-themes.	Commenced identification of themes: too many and broad. Not mutually exclusive. Requires refining.
4. Reviewing themes	See initial thematic map (appendix E)	Explore relationship between themes to reduce number and refine. Reflect evolution of themes over time e.g. action research phases.
5. Defining and naming themes	See thematic map (appendix E)	Identification of relationship between themes and phases including evolving context.
6. Producing the final analysis	Established candidate themes	Themes refined to enable production of analysis and thesis.

Table 4.28 Process of thematic analysis (Braun and Clarke, 2006)

4.15.4 General findings: themes.

This section is structured to reflect the three key interrelated themes that emerged from the data. These were:

- The influence of introducing the ICF on the teams.
- The creation of a tool and process to enable the introduction of the ICF into clinical practice.
- The influence that the introduction of the ICF had on practice.

In reality these three factors were not discrete but interdependent. For ease of description and understanding they will be considered separately. The analytical framework (Table 4.29) provides a description of the areas to be examined.

Analytical framework	
Theme	**Sub themes**
The team	Identifying a purpose for the ICF; the shifting contextual factors impacting on the teams' ability to innovate and; commitment and confidence to change.
The tool	Adapting the ICF for clinical use; modifying the ICF to the context; developing the personal factors.
The practice	Influence of introducing the ICF on: team and patient communication; sustained change in practice and; person-centred practice (PCP).

Table 4.29 The analytical framework.

One overarching influence impacted on all key factors; the context. Due to its pervasive effect it will not be studied independently but intertwined with the key factors.

The findings are informed by the conceptual frameworks of others studying healthcare change (Rycroft-Malone, 2004; McCormack and McCance, 2010). These frameworks propose that the implementation of change requires analysis of a number of key interrelated features associated with the targeted change such as the evidence (associated with the desired modification), context, and facilitation (Rycroft-Malone, 2004). Or in McCormack and McCance's (2010) description of the macro, meso and micro level contextual factors. Both postulate that complex change within organisations requires co-ordinated interventions on different levels.

4.16 The Team.

4.16.1 Context of change.

This section maps the evolving contextual factors influencing the teams' capacity to introduce the ICF into practice.

4.16.2 Organisational culture.

At the study's inception managerial support included: permitting staff to participate in the study; recruitment of participants via service wide meetings and; that focus groups could be conducted to frame the study's aims.

The beginning of the study coincided with relative organisational stability and a management structure closely aligned to the service incorporating both professional and clinical leads. This structure facilitated learning and development through regular pan service meetings, professional and clinical leads with responsibilities to support staff to evaluate and develop their services and professional and team in-service training programmes. Over several organisational reforms these structures were altered leading to a modification of the Professional Leads role, reduction in the number of Clinical Leads and alteration of their function. In addition the pan-service meetings were ended and in-service training programmes curtailed. This change in the organisational culture towards learning and development was captured by one participant, who reflected on the efforts of a colleague's team to incorporate reflection into their practice,

> '…they (the team) were informed by one of the clinical leads that these sessions should not be carried out during work hours and now they meet outside their contracted hours' (reflective diary, April 2012)

These changes influenced participants' relationships and trust towards those in management positions with one stating that,

> '…managers are now becoming more like auditors' (reflective diary Feb 2011)

Eventually trust deteriorated to the extent that a neurology team member commented (following a managerial initiated time in motion study) that she felt,

> '…the process was underhand (and that) the decisions had already been made and they'll self-select the data to generate time constrained interventions' (reflective diary May 2012).

These comments mapped a change in organisational priorities leading to adjustments in relationships between the managers and clinicians, with a deterioration in understanding and trust. This change was further demonstrated by alterations in the organisations key performance indicators (KPI's). Initially the services were appraised using patient reported outcome and experience measures (PROM's and PREM's) synthesising both clinical findings and the patients' experience. By the culmination of the study the PREM's had been discontinued and the PROM's modified to provide data primarily reported by clinicians. This suggested a lessening of organisational interest in the inter-relationship between clinicians and patients.

These findings indicated that the organisational culture changed due to structural changes, role modifications and transformed priorities, influencing the position of the study. The next section will consider how this ethos influenced the approach to change.

4.16.3 Organisational approach to change.

By the study's conclusion any activities not directly related to productivity or outcomes were restrained. The organisation's attitude towards change reflected a classical 'top down' management approach whereby efficiency and productivity is prioritised (Bolton, 2004).

These cultural changes (within the organisation) resulted in an increasingly adverse climate towards democratic and participatory approaches to change, leading one member to observe that the focus and nature of the study,

> '…sort of goes against the tide' (Interview neurology OT Nov, 2013).

The next section will describe the teams' experience of how the changing context influenced their participation in the study.

4.16.4 Adversity: shifting resources and demands.

The changing context in which the study was conducted could be considered chronically stressful with a participant noting,

> '…over the last year or so…in our service time constraints have really been put on us' (reflective diary Sept, 2012).

Leading to adversity, resulting from chronically stressful circumstances (Bonanno, and Diminich, 2013). These changes led to alterations in both the perception of demands and the resources available,

> '…we don't have time to actually facilitate and trial versions of the tool and so pressure I think is a limiting factor.' (Interview Neurology OT 2 Sept, 2013)

This transformation impacted on the participants' belief and capacity to introduce the ICF into practice,

> '…currently I'm not managing to input all my GAS (goal attainment scale) data… I haven't the time to do anything new' (Neurology OT reflective diary Dec, 2011)

especially during a perceived lack of progress in the study. Table 4.30 illustrates one such hiatus (midway through the innovation phase), following the publication of an organisational restructure. This resulted in a reduction in the teams' research activities, due to growing uncertainty further diminishing participants' belief in their ability to effect change.

The teams' response to these conditions will be considered in the following section.

4.16.5 Adapting to context: the emergence of resilience.

Resilience has been described as a multifaceted concept, involving, ‘a dynamic process wherein individuals display positive adaptation despite experiences of significant adversity or trauma’ (Luthar and Cicchetti, 2000, p.858).
This section will organise findings around Bandura’s Social Cognitive Theory (SCT) categories of the personal, environmental and behavioural factors leading to the emergence of resilience. Resilience will be described in detail the Chapter 5.

4.16.6 Resilience: Personal factors.

Engagement in the study influenced participants’ appraisal of their motivation, expectations and self-efficacy on both an individual and collective level. An innate motivation in effecting change could be found within both teams focusing on a sense of purpose,

> ‘…to support the approach that I like to use, which is more holistic.’ (Interview in-patient PT Sept 2013)

In addition to the motivational aspects participants reported a feeling of personal growth,

> ‘…we were learning about research as well as being part of it (the study) which was really useful.’ (Interview neurology OT Nov, 2013)

Leading to a growing self-efficacy,

> ‘…being able to take more ownership of it I think people enjoyed it.’ (Interview in-patient PT Sept 2013)

These results signify that for a cohort of participants’ engagement in the study led to changes in individual’s motivation, self-efficacy and personal capacity. This evidence is drawn primarily from participants that were extensively involved over an extended period, suggesting that the intensity and duration of participation may influence personal development. Alternatively, those participants that lacked the motivation or confidence to participate may have withdrawn from the study therefore participation may have been a vehicle for those with existing self –efficacy as opposed to its genesis.

4.16.7 Resilience: Environmental factors.

The obligations of everyday practice combined with the additional research activities led to apprehension regarding the viability of the study. This anxiety focused primarily on the conflict between wishing to invest time exploring the introduction of the ICF and the need to adhere to performance indicators. The in-patient team contemplated discontinuing the study due to conflicting demands, although ultimately decided to continue as,

> '…it provides an opportunity for clinicians to invest effort in something that was analogous to their training'. (In-patient meeting notes, March 2012)

These difficulties led to a number of responses designed to mitigate for the adverse conditions. Each team decided to expand the role of the lead researcher to relieve some of the 'pressure',

> '…it was difficult because of other pressure of work, it really needed the person doing the research to be driving it. (Interview neurology OT Nov, 2013)

The teams also adapted through re-organisation with the in-patient team restricting the size of the research team and neurology team advocating a buddying system, with the intention of enabling equal participation (without significantly diminishing the team's capacity to reach their clinical targets). The neurology team, being community based, was reluctant to generate additional meetings as staff would need to return to their work base, potentially reflecting badly on the team.

In contrast the in-patient team expressed concerns regarding the paucity of time dedicated to the research activities. This led to the participants opting to devote a whole day to developing the key-worker role and tool as the consensus was that,

> '...dedicating an hour or two every few weeks will never get it done' (Interview in-patient Nurse July, 2013)

These findings illustrate differences in the teams' resilience to external demands. The neurology team prioritising organisational targets, whereas the in-patient team appeared prepared to dedicate significant resources to their local needs.

Changes in leadership positions, also adversely impacted on the study. In the case of the in-patient team,

> '...we got a new modern matron who completely stopped anything to do with key working so for me that was like a major failure' (Interview in-patient PT Sept 2013).

Following this change the in-patient team adapted the protocol for the ICF-based tool's use to enable it to be used outside the key-worker role, suggesting a conscious, collective response to adversity.

A similar response was evoked in the same team when a senior manager suggested that they reduce their expectations to,

> '…a silver service as opposed to trying to maintain a gold standard' (reflective diary Sept., 2011)

This comment motivated the in-patient participants to intensify involvement in the study as,

> 'We'll bloody well provide a gold standard, whether they like it or not' (reflective diary Sept., 2011)

This response would suggest that on occasion's participant's personal values and beliefs overrode external demands, especially when the responsibility could be shared collectively.

These findings suggest that whilst both teams worked within the cultural and productive demands of the environment they were prepared to amend their practice to enable the continuation of the study, indicating the generation of an emergent resilience. These adjustments were context dependent, often pragmatic in nature and enhanced by collective decisions.

4.16.8 Resilience: Behavioural factors.

The final elements of resilience to be considered are behavioural. The interplay between commitment and persistence could be observed within each team. A core group of participants from each team remained committed to the study resulting in a communal persistence. Over the period of the study both teams were provided multiple opportunities to terminate the research. On each occasion a group of participants elected to continue. This commitment was encapsulated by an in-patient member, who suggested that,

> '…key participants were all very committed to keeping it going and we all recognised the needs to have something robust that we could hinge our practice on' (Interview in-patient Nurse July, 2013).

And echoed by a neurology participant,

> '…it takes a lot of commitment from the team to do it and that's quite difficult because of other pressure of work' (reflective diary March, 2013)

It was recognised that this ongoing commitment was not without cost as it,

> '…took a lot of drive to keep pushing forward and it was difficult when new members of staff came in' (Interview neurology OT Nov, 2013)

Aligned to the commitment and perseverance was a need for close collaboration,

> '…you could all develop something and you would all have that small part to play in bringing something to fruition' (Interview in-patient Nurse July, 2013)

Leading to enhanced communication and communal decision making,

> '…everyone felt really involved and their opinion was listened to and… it was all about everyone that was involved changing things and making it work for them' (Interview neurology OT2 Sept, 2013).

Not all participants exhibited these behaviours towards the study suggesting that resilience was not universal to all participants.

4.16.9 Organisational impact on the teams' capacity to innovate.

This section will focus on those organisational factors that directly influenced the teams' capacity and confidence to innovate, namely: the teams' composition and; the conditions under which they practiced e.g. the changing resources and demands.

4.16.10 Composition of the team.

The in-patient team were impartial regarding the inclusion of rotational staff, while the neurology team actively encouraged participation from those on rotation and did not exclude agency staff. This influenced the composition of the research teams and in turn consensus around the introduction of the ICF. As a neurology participant observed,

> '…because we had different people dipping in and out of the whole project…it is possibly a potential barrier particularly if they don't really know in terms of where we have come from' (Interview neurology OT2 Sept 2013).

Resulting in a situation where a neurology participant commented,

> '(The focus of the study) may not be understood or recognised by all potential participants' (reflective diary June, 2011).

These comments implied that the evolving nature of the study was such that unfamiliar participants were not always aware of the rationale or outcome of previous actions. This lead to the proposed repetition of earlier actions or limited awareness of why suggestions had been declined.

Contrastingly, the stability and composition of the in-patient team resulted in the confidence to effect change,

> '…more senior clinicians involved, so possibly I am criticizing myself here, but I think that because of the size of the team that the decisions were made' (In-patient PT interview Sept, 2013)

This comment suggested that consensus and the capacity to make decisions was influenced by the characteristics of the team. Whilst from an efficacy stance this may be perceived as advantageous it suggests limited representation, illustrating a potential paradox (as inferred by the respondent) between comprehensive representation and ‘effective’ decision making.

These findings indicated that the capacity to innovate was mediated by the composition of the team. The neurology team chose to be a ‘broad church’ incorporating the majority of the staff, whereas the in-patient team remained small with an intimate membership.

The organisational context also influenced the participants’ capacity to explore the introduction of the ICF. The next section will consider these issues.

4.16.11 Availability of resources.

The main requirement of the study was participants’ time. Initially this was not a concern due to managerial support and limited awareness of the requirements associated with the introduction of the ICF. Capacity altered over the study period, leading to a significant change in conditions. The next section will describe this transformation.

4.16.12 Commitment and confidence to innovate.

Participants’ commitment and confidence were affected by a number of evolving factors such as knowledge of the ICF and the context.

4.16.13 Initial commitment.

Both teams expressed an interest in exploring the use of the ICF although indicated diverse commitments with the in-patient team resolving that,

> ‘…the research team should meet approximately every two weeks’ (In-patient summary Jan, 2010)

Whereas the neurology team stated that,

> ‘…the team would be interested in commencing the exploratory phase’. (Neurology summary Jan, 2010)

These statements suggested that neither team was fully aware of the level of commitment required.

The number and nature of the participants may have influenced the level of commitment. The in-patient team had representation from self-selecting staff that were in influential positions e.g. senior nurses and lead allied health professionals (AHP). Contrastingly, the neurology team included a number of participants that had not been involved in the initial expression of interest and therefore may have been more equivocal, hence the desire to ‘explore’.

The clarity and resolve towards the change from those representing the in-patient team appeared more defined, from the onset, with participants identifying within the first meetings that,

> ‘Nursing staff need to integrate… into a common framework, hence the interest in the ICF’ (In-patient summary Feb, 2010).

These findings indicated that the in-patient team promptly gained consensus around the nature of the desired change. Whereas the neurology team, whilst interested in exploring the utility of the ICF, did not entirely embrace or identify an agreed purpose for its introduction. This inability to arrive at a specific focus may have impeded the overall commitment of the neurology team participants, whereas the in-patient teams’ consensus potentially enhanced commitment.

4.16.14 Commitment over time.

Figure 4.13 indicates that commitment (through numbers participating in research activities) fluctuated over the research phases. Overall it suggested a smaller in-patient team with relatively consistent engagement, whereas participation from the neurology team appears to reduce overtime possibly indicating a decline in commitment.

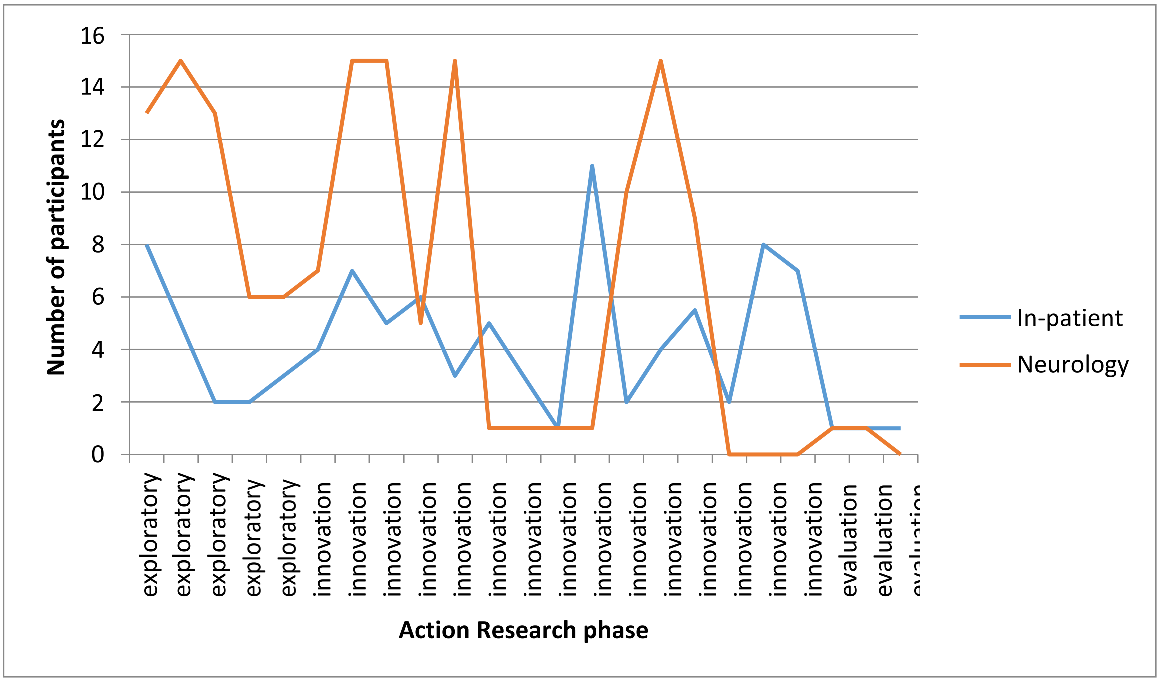


Figure 4.13 Participation in research activities over time: both teams

This variation of commitment was acknowledged within the neurology team. A number of members questioning others commitment. One commented,

> '…why should we take the full responsibility (to attend research meetings) when the team as a whole had agreed to participate' (neurology summary August 2010).

Whilst recognising that attendance is optional these comments may have reflected the growing frustrations around commitment and capacity, resulting from the organisational changes. This situation was not confined to the neurology team,

> '…got to the stage where our time was so limited we had to cancel meetings because there wasn't enough people to attend… because people were moving off, resigning.' (In-patient nurse interview July, 2013).

These findings suggested an association between commitment and capacity whereby contextual changes combined to reduce participants' capacity to engage. This may have been perceived by others as a reduction in commitment, rather than capacity, resulting in a potential reduction in overall team motivation. The data presented in

Table 4.30 should therefore be interpreted with care as it may represent the evolving interplay between context, capacity and commitment, rather than commitment alone.

4.16.15 Confidence to change.

Early levels of engagement in the research were high (see figure 4.13) suggesting that participants from both teams believed that the ICF had the potential required for positive outcomes and that the environment was conducive to change.

Over the study period managerial support and knowledge of the ICF changed, influencing the teams' belief in their ability to introduce the ICF. Growing knowledge of the framework revealed a complexity previously unknown to many participants,

> 'It's too long and academic in language, especially when talking to patients' (In-patient Workshop Summary November, 2011).

Resulting in concerns regarding its utility,

> '…realistically in clinical practice I don't think you would use all those different codes' (Interview Neurology OT Nov, 2013)

However increased exposure to the framework led one participant to comment,

> 'Something that has been really positive to me, I've developed a much better understanding of the ICF where it's relevant and how it can be useful' (Neurology interview OT2 Sept, 2013).

Suggesting that confidence in using the ICF is moderated by knowledge.

The ICF's complexity resulted in ongoing problems for the neurology team regarding its introduction, leading to questions over its eventual use,

> 'I'm not sure whether we'll ever agree on how we want to use it' (reflective diary March, 2011).

This illustrates a potential 'vicious cycle' whereby the complexity and varied expectations of the ICF undermines confidence in identifying the focus of use, leading to non-specific modification and limited utility (see figure 4.14) therefore further undermining motivation and confidence in its use.

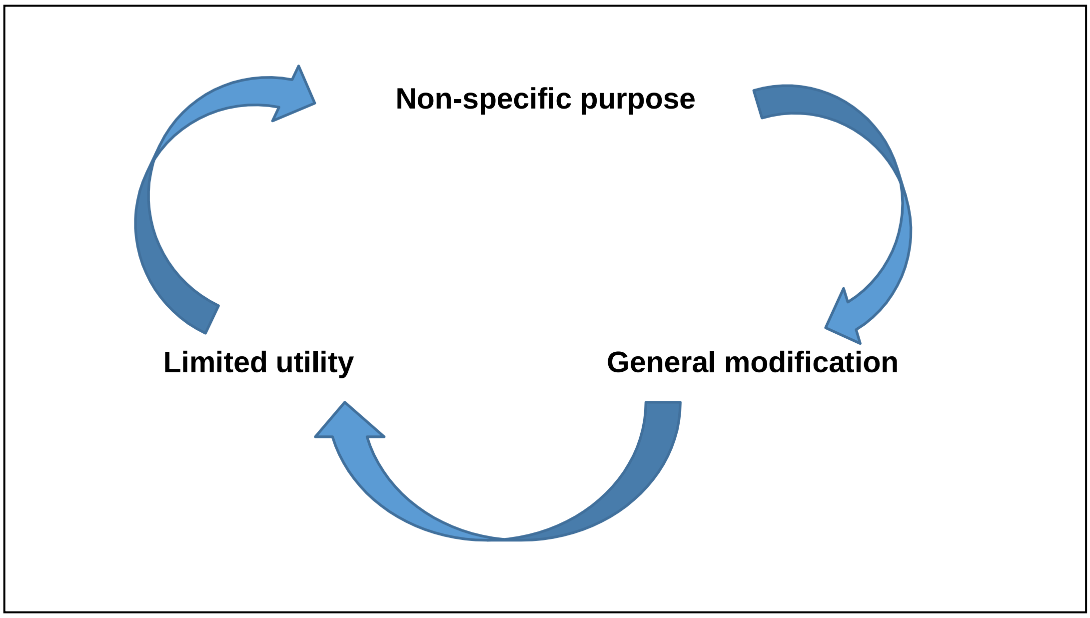


Figure 4.14 Potential negative relationship between purpose and confidence.

Whereas if consensus is achieved a virtuous cycle occurs whereby the identification of purpose leads to specific modification and effective use reinforcing motivation and confidence in the introduction and utility of the ICF (see figure 4.15).

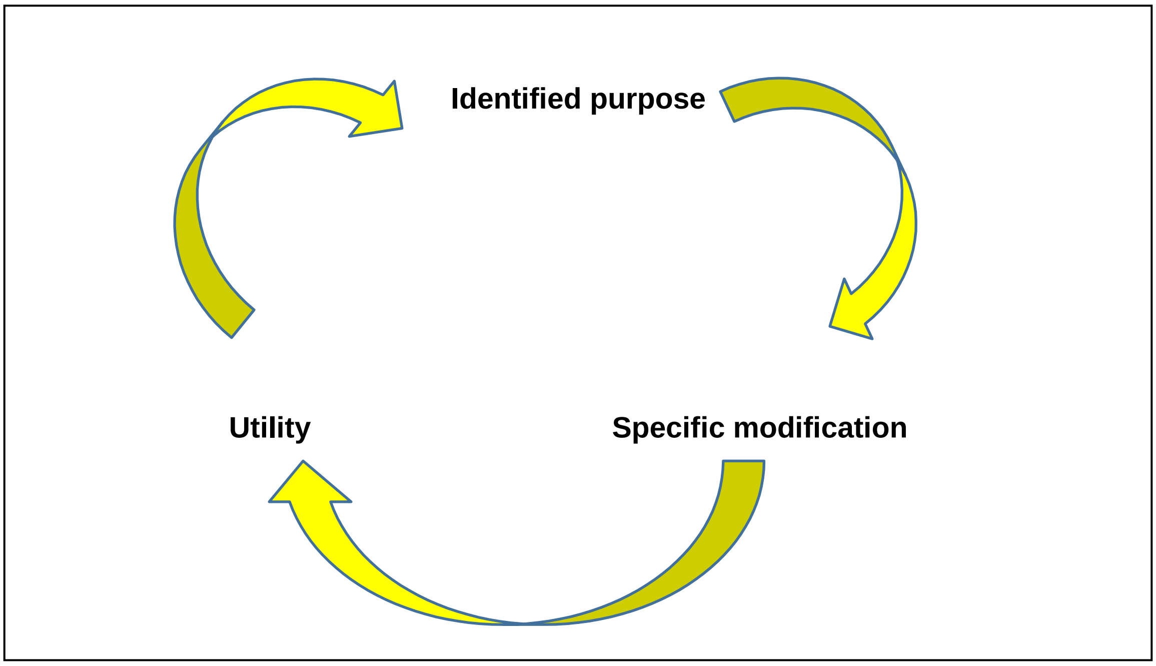


Figure 4.15 Potential positive relationship between purpose and confidence.

In summary the shared commitment and confidence of the two teams towards the identified change varied. This was due to multiple interconnected factors including the initial ownership of the proposed change, a growing awareness of the complexity of the ICF, divergent opinions and difficulties gaining consensus, differences in practice and expectations, changes in managerial support and organisational culture and the different decisions of the teams around the composition and participation of team members.

4.16.16 Team: conclusion.

Exploring the introduction of the ICF impacted on both the teams' and individuals' involved. The collective and personal knowledge of the framework was strengthened. Both teams experienced a growing recognition of the complexity of the framework and of its potential applications. On an individual level participants expressed increased knowledge of the ICF, through their discussions and its use. This suggests that knowledge of the ICF was acquired through the process of engagement in the study. The teams both became confident in their capacity to modify the ICF for clinical use, therefore potentially enhancing its perceived value.

The process of introducing the ICF also influenced the teams through the opportunities to share perspectives on practice, preferences and priorities through activities such as focus and experiential learning groups, therefore collectively engaging in addressing issues pertinent to their practice.

The introduction of the ICF also revealed contextual factors affecting the teams' ability to innovate. This led to both teams adapting their response to the adverse conditions through a growing resilience. Whilst commitment fluctuated, the environment modified, opinions differed and staff changed both teams persevered (for over two years) in exploring the introduction of the ICF.

The in-patient team consistently determined that they wanted a tool that would be shared between patients and clinicians to enhance communication and PCP, whilst adapting the tool pragmatically to the changing environment.

These findings illustrated a divergence of purpose for the ICF reflecting the different needs, context and characteristics of the teams.

4.17 The tool.

4.17.1 Adapting the ICF to context of practice.

A shared finding was that the ICF required significant modification to achieve clinical utility requiring a number of interrelated processes. Initially the generic framework needed alteration to reflect the general parameters of each team's practice e.g. community neurology or complex in-patient rehabilitation. These changes enabled the ICF to be trialled in practice, revealing an additional set of requirements for adaptation such as pre-existing tools and practices, team resources and priorities or organisational demands, reflecting the specific practice setting. This was further complicated by the evolving context, heterogeneous nature of the patients and differing level of agreement over the focus of the ICF's introduction. The complexity and extent of modification required to introduce the ICF into clinical practice challenges the utility of the framework.

4.17.2 Personal factors: Concerns and complications.

The personal factors component needed to be developed in order to generate a cogent tool. Whilst there was broad consensus (across both teams) regarding the importance of personal factors, concerns coalesced around the interrelated issues of judgement and subjectivity, skills and ethics and ICF measurement (see table 4.30).

Acknowledgement of the importance of PFs.

'…personal factors often have a significant impact on outcomes and therefore should be addressed' (In-patient summary Aug 2010)

'Some of the topics that the patients talk about that are important to them may not be raised through an actual assessment process' (In-patient PT interview Aug, 2013).

'…don't we address them already' (Neurology PT reflective diary Feb 2012)

Concerns regarding the process of addressing PFs.

Judgement and subjectivity.

'…problems recording potentially judgemental opinions around personal factors e.g. intrinsic motivation or educational background'. (In-patient summary Aug 2010)

'Concerns regarding discrepancies between patient and clinicians opinions regarding the personal attributes of the patient was raised'. (In-patient summary Aug 2010)

Skills and ethics.

'Additional skills are needed to discuss potentially emotive subjects'. (In-patient summary May 2010).

'…is it helpful, or ethical, to bring up issues that you can't realistically resolve? (Neurology OT reflective diary Nov, 2011)

'…non-specific questions around the influence of broad concepts such as gender or race did not elicit useful information and therefore the key-workers were reluctant to broach the area of personal factors'. (In-patient summary Dec, 2012).

'Need rapport to ask certain questions e.g. around sexuality, isolation this is at odds with protocol of completion within first five days'. (Key-worker tool training feedback April 2013)

ICF measurement.

'The consensus was that the current (PF) categorisation was so ambiguous it could not be used in practice'. (In-patient summary Aug 2010)

'…concerns around how terms like race and gender could be sensitively used and how individual personality traits could be attributed to such gross categorisations. (In-patient summary Aug 2010)

Table 4.30 Participants' responses to personal factors

These concerns led to differing levels of anxiety. The neurology team recognised the influence of personal factors and felt they were already addressing them albeit tacitly, whereas the in-patient team acknowledged that this was not occurring. This incongruity may be due to a number of reasons. The neurology team were possibly more experienced (with more qualified therapists) and the community setting was more conducive to addressing personal factors e.g. interventions were not time limited allowing greater opportunities to ‘know’ an individual.

Alternatively, the neurology team may have been content that they were addressing these factors where in reality they remained disregarded. Findings from the semi-structured interview investigating clinical reasoning indicated that there was inconsistency regarding the recognition and tackling of personal factors.

Both teams delayed developing their personal factors section for over eighteen months. This reticence may have arisen from the concerns described, leading to reduced confidence in the generation of personal factors. This resulted in a dichotomy whereby there was a recognition of the power of personal factors in informing clinical reasoning with a corresponding uncertainty as to the ways of capturing and addressing personal factors.

4.17.3 Tool: conclusion.

Both teams developed a tool or tools with utility, although chose to administer them differently, either pragmatically for numerous tasks (neurology team) or universally for a set role (in-patient team). This indicated that introduction of the ICF into practice requires adaptation to the specific context.

These findings suggested that with considerable attention the ICF can be modified to reflect both the general area of practice and the particular context e.g. the organisation. Whether these modification could realistically be carried out within routine service development is questionable. The final section will examine the remaining element; how the process of introducing the ICF influenced the teams’ practice.

4.18 The Practice.

4.18.1 Team communication: sharing perspectives.

The process of examining the parameters of the teams’ practice required a sharing of perspectives within the teams.

The neurology team initially explored these issues through a focus group on clinical reasoning. This activity enabled participants to acknowledge and share divergent opinions as to their philosophical stance, question current practice and discuss differences in clinical reasoning (see table 4.31). All findings are drawn from the focus group transcript.

Acknowledgement of different philosophical approaches.
'…you might cover the same ground but you might start from a different angle' (Participant 7)
'…we know that obviously one model does not fit all'. (Participant 4)
Questioning current practice.
'No, isn't it part of our role to broaden their perspective because sometimes you can get 'locked into' just pathology and that isn't helpful. Is it our role to help facilitate a shift from the 'broken body' into just some of the limitations on what they're able to do?' (Participant 3)
'We impose a framework and that framework possibly is against the other aspects… if we are specifically looking at a participation goal we may negate some of the impairment levels that can still be accessed. We should be clinically addressing that if it is part of the goal'. (Participant 12).
Recognition of differences in clinical reasoning.
'…from a speech therapy perspective its more rare that you can fix the impairment it's more about helping them with adjustments around that and so you do push their goals around activity and participation'. (Participant 6)

Table 4.31 Methods and focus of clinical reasoning within the neurology team.

The process of sharing and discussing personal opinions provided an opportunity for the neurology team to better understand individual perspectives and agree on the required properties of a tool. As a participant remarked,

> 'The focus group gave us the chance to discuss clinical reasoning and what we want, giving some direction to the research' (reflective diary May, 2010).

Over the study period staff and contextual changes may have weakened the accord, resulting in divergence over the focus of the ICF's introduction. Regardless of the difficulties gaining consensus the opportunities generated (through the introduction of the ICF) resulted in one participant concluding that,

> '…it's (the process) given us an insight and understanding about other disciplines… we've kind of more of a respect for the other disciplines or better understanding' (Interview neurology OT2 Sept, 2013).

For the in-patient team sharing of perspectives centred on the development of a core set. This enabled members to discuss issues associated with their practice and co-ordinate interventions,

> '…we all recognised the need to have something robust that we could hinge our practice on and something that we could develop (Interview in-patient nurse July, 2013).

The co-development of the tool by all disciplines suggests a developing mutual understanding of different team members.

Activities linked to the development of the personal factors section further refined the process of exploring practice. These activities had the dual effect of devising the personal factors section and enabling the teams to share opinions,

> '…we were trying to tease out the personal components for the tool but at the same time we had a good discussion on the things we do' (Neurology OT interview Nov, 2013).

In summary team communication was influenced through the introduction of the ICF. This process provided opportunities for candid discussions on practice to be carried out in a trusting and focused environment. The enriched understanding and respect amongst team members provided the platform for developing MDT practice e.g. introduction of the ICF. Communication also shaped practice at the patient level, as will be discussed in the subsequent section.

4.18.2 Team and patient communication: influence on clinical reasoning.

This section will consider the ICF's effect on MDT communication and clinical practice specific to individual patients. Results reflected a diverse set of opinions (see table 4.32).

Positive responses. '…better understand the preferences of the patients' and therefore enhanced the goal setting process' (In-patient summary Dec 2012). '(It) ensured that clinicians address often neglected areas e.g. sexuality' (In-patient summary July 2011) '…participants reported that the sharing of findings and perceptions (from each clinician) was of benefit'. (Neurology summary Sept 2010). *Negative or ambivalent responses.* '…could be helpful although limited time before goal planning'. (In-patient workshop summary Nov 2011) 'Generated nothing new' (In-patient workshop summary Nov 2011).

Table 4.32 ICF's influence on MDT communication and clinical reasoning

As can be seen the value of the ICF (and associated communication) ranged from 'generating nothing new' to 'ensuring that clinicians address often neglected areas e.g. sexuality'. There are a number of possible interpretations to these findings.

Analysis of the data suggested that the purpose of the tool and nature of communication differed across the teams. The in-patient team used the tool to enhance communication between the MDT and patient. Whilst the neurology team used it to improve MDT clinical reasoning in specific cases. These differences may explain the divergent results. Therapeutic interventions involve a dialogue between clinicians and patients are orthodox (Scobbie et al., 2011) and were endorsed through the GAS KPI. Whilst MDT communication is difficult to capture and measure and in straightforward situations considered superfluous.

This difference in priorities resulted in the in-patient team consistently using the tool whilst its application varied amongst the neurology participants. Although a number of negative or ambivalent responses came from in-patient team members, these comments came from clinicians 'outside' the core research team, who had limited knowledge or ownership of the tool.

4.18.3 The sustained effect of the ICF on practice.

The neurology team recognised the benefits of improved communication and reasoning across the MDT and endeavoured to find a tool that could be embedded into their practice. The in-patient team's ability to find a specific use for the tool and embed it into the key-worker role created sufficient need and precedent for consistent, resilient use. This resilience was demonstrated when a new manager excluded the nurses from directly using the tool, whilst a set back the use continued, possibly because its value had been established and use embedded into practice.

The composition of the teams affected the ICF's introduction into practice. The effective generation of a 'core' in-patient team enabled the tool to be developed in a safe, consensual environment, whilst the neurology instrument was exposed to greater divergence of opinion. This may have resulted in the in-patient tool being sufficiently developed (prior to being introduced to the larger team) to enable it to become embedded into practice, whilst the fluctuating opinions and demands inhibited this process occurring in the neurology team.

Finally, experience may also have shaped practice. A core in-patient team participant cautioned that inexperience may threaten the ICF's long-term use,

> '…could be the drawback if you do not have quality (staff) using the tool, it is quite a complex tool and requires a certain amount of expertise and competence to use it effectively' (In-patient nurse interview July, 2013).

Whilst contradictory opinions were expressed in the neurology team,

> '…whether (using the tool) justified the increased time required for completion' (Neurology summary Sept 2010).

Suggesting that the clinician's knowledge was such that any added value (of the ICF) was abrogated by the demands of applying the tool. These comments may not fully acknowledge the tacit knowledge of the ICF that may have occurred through the process of introduction. One neurology participant acknowledged that she did not often use the tool but recognised that,

> 'I have an implicit knowledge of it now… I've come to this point of having internalised lots of it' (Interview neurology OT2 Sept, 2013).

This statement may explain some of the limited use and recognition of the ICF, within the neurology team. A mixture of pre-existing skills and increased tacit knowledge of the ICF may have combined to suggest little explicit value from the framework, whereas in reality the process of ‘internalising’ it has made its use unwitting. Alternatively, the teams’ pre-existing knowledge may be such that the ICF is self-evident to many clinicians and therefore not considered to add significant value. Regardless, as one member observed (when considering the introduction of the ICF into practice),

> ‘…you’ve a choice you either have little knowledge and a big tool or big knowledge and a small tool’ (reflective diary September, 2012).

This statement appears to encapsulate the complexity of introducing the ICF into practice. Either: significant time is invested in gaining in-depth knowledge of the framework (to a point when it becomes tacit and only needs simple tools) or; effort is spent in developing complex tools to be used by those with limited knowledge. Irrespective of the decision either process requires considerable fortitude.

4.18.4 Keeping it personal: the effect on person-centred practice (PCP).

The ICF has a limitation when considering PCP. Under WHO protocol all ICF data is generated from external observers (clinicians) impressions as opposed to patients’ subjective report (WHO, 2001). This ultimately means that clinicians control the narrative of an individual’s experience of functioning. Both teams advocated strengthening PCP through the ICF. This section will present findings on the process and effectiveness of enhancing PCP.

Each team chose to exclude patients from the study on the basis that they neither had the resources or confidence to co-develop the tool with patients. Patients’ participation may have influenced the PCP aspect of the tool.

4.18.5 Neurology: Patient involvement in applying the tool.

Early neurology protocols advocated initially collecting and sharing clinicians observations within the MDT and then with the patient. These changed resulting in the team stating that,

> '…the completed tool would not be presented to the patient' (meeting notes 16th September, 2010).

The specific reason for this decision was not given although the team determined to use the tool when they were 'stuck' and unable to progress. Presumably, these discussions risked airing divergent opinions and therefore may not have been considered conducive to patient participation. These findings indicated that whilst espousing PCP principles the neurology team elected for the ICF tool to be clinician-centred.

4.18.6 Person centred practice and context: neurology team.

Myriad contextual barriers were identified to patient participation around time, setting, roles and responsibilities and organisational targets. The only dedicated time for MDT goal setting was following the weekly team meeting. It was acknowledged that this was insufficient,

> '…time constraints are the biggest thing we have half an hour maximum to do our goal setting with all our patients' (Neurology OT interview Nov, 2013)

Goal setting was carried out in the team office. It was not accessible to the public, open plan and lacking in privacy and therefore not conducive to goal setting with patients. Setting goals in the patient's home was also unrealistic as multiple staff attending the same patient was discouraged. Although these findings could be interpreted as evidence of patients being excluded from the goal setting process the situation is nuanced. Discussions, separated from the use of tools, occurred between clinicians and patients. As a neurology participant remarked,

> '… it takes a little bit of time to get an idea what their (the patient's) needs might be… there's much more layers. I've got a deeper understanding of just how diverse those issues can be and how individual it is' (Interview neurology OT2 Sept, 2013).

This suggested that (for this participant) the process of developing the tool strengthened the clinician's tacit awareness of the unique circumstances and BPS factors operating on individuals, thereby potentially enhancing PCP.

Application of the neurology tool may be considered to be missing many person-centred aspects. This does not mean that PCP was not influenced by the tool itself. Participants reported greater precision and enhanced analysis of complex cases,

> '…complex cases; One participant stated that it proved to be 'one hour well used when stuck' (Neurology summary May 2012).

Whilst these finding may not reflect orthodox PCP they may be considered strengthening it by proxy, through improved BPS analysis and MDT reasoning.

4.18.7 In-patient: Patient involvement in applying the tool.

Whilst early tools and protocols were essentially clinician-centred, this changed over the period of the study. Patients and clinicians now had a tool designed to explore and describe the subjective experience of living with a disability. This had filled an important 'gap' in practice and had the dual effect of enhancing PCP (see table 4.33), whilst finding a significant role for the ICF tool.

'…very useful at establishing a rapport with the patient you are key-working' (Feedback email Nov 2012) '…the tool enabled the MDT to better understand the preferences of the patients' (Summary Dec 2012) '…enables the key-worker to be an advocate/ voice for the patient in MDT meetings' (Training feedback April 2013): '…it's invaluable for getting to know a patient and trying to get a holistic picture of them' (Interview in-patient nurse July, 2013).

Table 4.33 Influence of the in-patient tool on PCP.

4.18.8 Summary.

These findings indicate that the ICF can strengthen PCP through the dual mechanisms of capturing issues pertinent to patients and then devising interventions (with the patient) to address them. Although this requires significant amendments to the recommended application of the ICF.

Ideally, for PCP to occur a modified tool needs to exist reflecting the context of practice such as the setting and skills of the staff. Additionally, the protocol for the tools use must then be designed to ensure that the structures are in place for patients' preferences to be identified, for the information to be disseminated and actions co-ordinated carried out and reviewed. Again this requires significant commitment to the development and use of a tool that reflects all aspects of the local setting. In addition the priorities, setting and resources available will influence the extent of PCP. Further exploration of the ICF's influence on PCP will be examined in the discussion chapter.

Enriched PCP may also have occurred through the development of the tool (as opposed to its explicit use) through increased awareness of the ICF, suggesting an alternative mechanism for introducing the framework into practice.

4.18.9 Practice conclusions.

The introduction of the ICF influenced team practice at two levels. At the team level both groups used the opportunities generated to share and discuss philosophies and approaches to practice to improve mutual understanding. At the patient level the influence differed. The in-patient team found sufficient consensus around the purpose, value and use of the tool to enable it to become embedded in practice. However, this consensus could not be achieved in the neurology team, resulting in its sporadic use. Factors for this divergence of practice included differences in gaining consensus around the purpose of the tool, generation of resilience, the perceived value of the ICF, the context, setting and composition of the teams and skills and experience of the team members.

4.19 Chapter summary.

Echoing the conclusions of others (Rycroft-Malone et al 2004; McCormack and McCance, 2017), these findings illustrated the complexity of organisational change in healthcare. In relation to this study the change was the practice resulting from introducing the ICF and complexity consisted of the interplay between the teams' needs and capacity, the characteristics of the ICF and the organisational context (see figure 4.16)

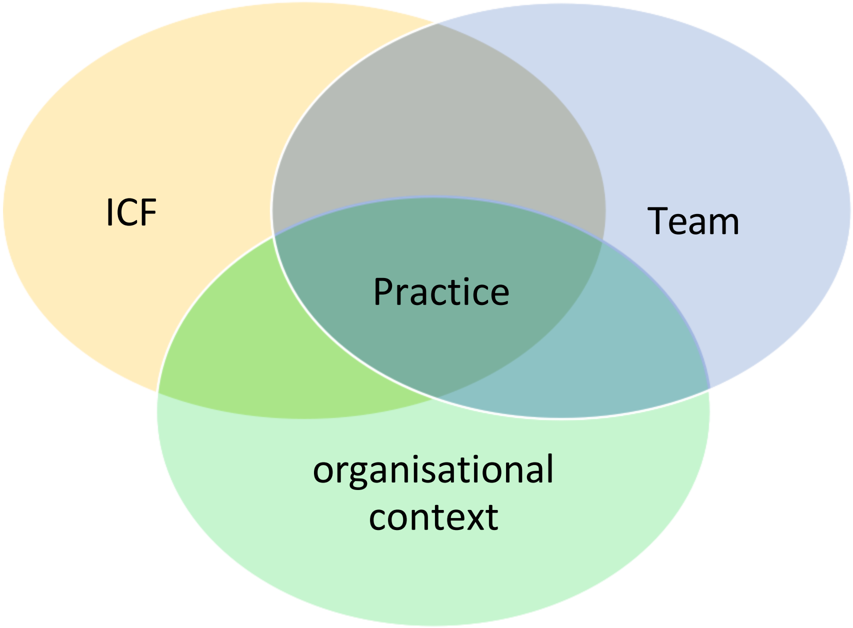


Figure 4.16 Interplay of factors influencing the introduction of the ICF

There were a number of significant findings arising from the study.

From the perspective of the teams and individuals these included: 1) an enhanced awareness of the ICF; its complexity and potential use in clinical practice 2) a greater understanding of the perspectives and philosophies of different team members 3) the influence of consensus regarding the focus of the ICF's introduction 4) the adaptability of the framework to the specific needs of the teams 5) the influence of the context and culture of practice on the ICF's introduction 6) the teams' response to the contextual demands and 7) the teams' ability to innovate.

A feature of the introduction of the ICF was the need to adapt it to the specific practice and context of both teams' within a shifting context. This revealed both the adaptability of the ICF and the corresponding persistence required to modify the framework to achieve clinical utility. Whilst in the case of this study the necessary persistence was achieved, it remains questionable as to how easy the ICF could be modified to reflect the requirements of specific teams, without the additional resources connected with a research study.

Findings reflecting the characteristic of the ICF itself expose its initial complexity and opaque language, its potential conflicting uses, its amenability to modification and the underdevelopment of the personal factors. Specific outcomes included: innovative ways to create ICF core sets which reflected each team's individual practice and context; different methods to select and capture personal factors pertinent to a team's context and; modification to the application of the ICF to strengthen person-centred practice by synthesising the biomedical and psychosocial elements.

Finally, the effect on practice included enhanced communication and clinical reasoning at both team and patient levels, through a framework for sharing perspectives, knowledge and opinions.

Person centred practice (PCP) was also influenced by the introduction of the ICF through a number of mechanisms. The in-patient team strengthened PCP through the application of the ICF whereby the patients' subjective report was prioritised; this process was further enhanced through the development of the key-worker role. Meanwhile, the neurology team developed their PCP by being aware of and using the (biopsychosocial based) ICF and through the processes of developing and applying the personal factors section of their tool. These changes were mediated by the context of the teams' practice e.g. the availability of the MDT and patients.

Findings from this study indicate that the ICF can be introduced into clinical practice and modified to reflect the specific practice and context of individual teams. Practically, these modifications are complex, requiring consensus about the focus and use of the ICF, significant modification to both content and language of the framework and development of specific personal factors sections. This process was influenced by the emerging context of practice, whereby priorities and resources altered, leading to the need to further adjust the focus or use of the ICF.

These results suggest a dilemma whereby the ICF can enhance practice but the process of modification can be outside the capacity of individual MDT's. Alternatively, if the ICF is not modified to reflect the precise circumstances, results indicate that it does not possess the utility for effective introduction.

4.20 Conclusions.

This chapter has described two different but interlinked findings from the study. Through the action research process, knowledge-in-practice findings demonstrated how participants identified potential ways that the ICF could enhance practice. From this development the participants chose to develop clinical reasoning tools. This innovation integrated the development of core sets and personal factors sections, reflecting the nature and needs of the specific team's practices. Through the iterative nature of the action research process the in-patient team developed a tool, protocol and skills that reflected their specific needs (to facilitate PCP). This process was less successful for the neurology team, although they generated two (long and short clinical reasoning) tools that enhanced their biopsychosocial reasoning.

There were six overall themes which emerged from the knowledge-in-theory findings. That successful change required: the generation of consensus, clarity of values, a shared culture amongst participants and the organization, the creation of a resilient, innovative and risk-taking culture within the teams, the adaptation of the ICF to the context of practice reflecting the patients', teams' and organisational needs and lastly their capacity. These factors resulted in: enhanced communication and reasoning between MDT members and patients, a greater awareness of the biopsychosocial (BPS) needs of individuals and enriched person-centred practice (PCP). The six themes will examined in the next chapter through the application of a PCP framework.

Chapter 5 Discussion.

5.1 Introduction.

Currently there is limited empirical evidence regarding the application of the ICF into clinical practice (Wiegand et al., 2012). This chapter discusses the main findings arising from the study that aimed to explore the process and outcomes of introducing the ICF into two clinical teams. This action research study has identified and described factors influencing the introduction and outcome of the ICF into clinical practice. Namely, the requirement to:

- generate consensus, clarity of values and a shared culture amongst participants and the organisation;
- create a resilient, innovative and risk-taking culture within the teams;
- adapt the ICF to the context of practice reflecting the patients', teams' and organisational needs and capacity.

In order to:

- enhance communication and reasoning between MDT members and patients;
- generate a greater awareness of the biopsychosocial (BPS) needs of individuals and;
- enrich person-centred practice (PCP).

This chapter will demonstrate that integration of findings with the theoretical perspective of PCP provides support for the central argument of the thesis, that the introduction of the ICF requires a synthesis of the *universal* i.e. the biomedical model and global factors and the *particular* of the psychosocial approach and local context.

5.2 Rationale for using person-centred practice to investigate the introduction of the ICF.

The WHO has endorsed PCP (WHO, 2007) and has proposed the use of the ICF in facilitating person-centred clinical care and research (Luthi et al. 2011). This statement indicates that the ICF is complementary to PCP and that the WHO endorses the use of the ICF to develop a PCP approach to healthcare. Therefore it is argued that the PCP is a valid theoretical construct with which to consider both the process and outcomes of introducing the ICF into practice.

For PCP to truly occur all partners (including staff) require, ‘the formation and fostering of therapeutic relationships… that is enabled by cultures of empowerment’ (McCormack et al. 2010 p13). Therefore the breadth of the construct (cultural) is such that it can integrate this study’s findings at the levels of the organisation, team and individual. With culture being, ‘not about individuals but about the social contexts that influence the way people behave and the social norms that are accepted and expected’ (Manley et al. 2011 p2). Interpretation of the study’s findings through the notion of culture is relevant as the conclusions centre on the significance context on the introduction of the ICF.

The next section will briefly describe McCormack and McCance’s (2017) person–centred practice framework. This has been selected as the structure for integration of the findings as it employs multi-level analysis by examining the interplay between the characteristics of individuals, teams and the overall context of practice (see figure 5.1). These factors are scrutinised in relation to their ultimate influence on person-centred practice. This resonates with this study’s aims of: evaluating communication and clinical reasoning and; the outcomes of introducing the ICF into clinical practice.

5.3 The person–centred practice framework (McCormack and McCance (2017).

This framework derived from the synthesis of McCormack’s (2003) construct on PCP with older people and McCance’s (2003) interpretation of patients’ and nurses experience of caring. The resulting framework consists of four key domains (see table 5.1) and twenty-one inter-connected characteristics (see figure 5.1). The framework was subsequently tested and found to have concepts and propositions that are empirically measureable (McCormack and McCance, 2017) and is suggested to be applicable to MDT working, despite being primarily developed as a nursing framework (McCormack and McCance, 2017).

Domain	**Definition**
Prerequisites	These focus on staff attributes and are considered the building blocks in delivering effective PCP and for managing the challenges of a constantly changing context.
The care environment	These focus on the context under which care is delivered and is considered as having the greatest potential to limit or enhance the facilitation of PCP (McCormack et al. 2011).
Person-centred processes	These focus on delivering care through a range of activities that operationalise PCP.
Person-centred outcomes	These represent the results expected from effective PCP.

Table 5.1 Person-centred practice framework domains (McCormack and McCance, 2017)

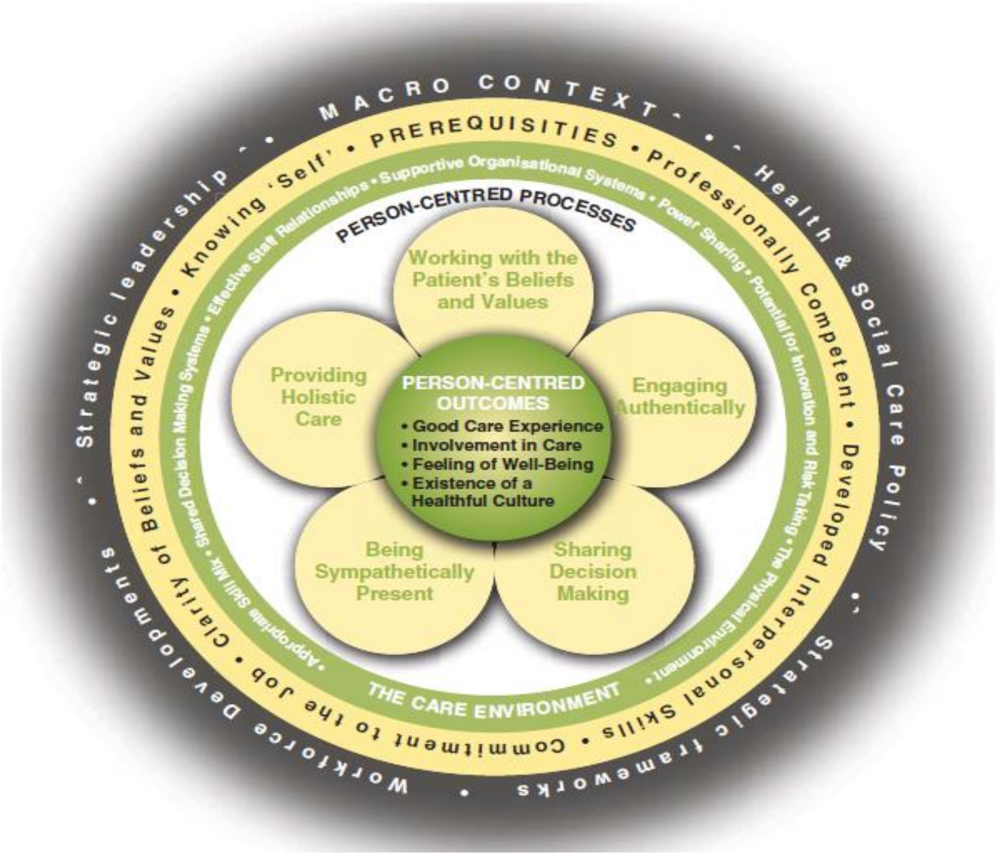


Figure 5.1 Person-centred Practice Framework (McCormack and McCance, 2017)

The next section will examine the main findings with reference to McCormack and McCance's (2017) framework. Finding will be drawn from across the PCP framework's domains. Both teams will be considered collectively although contrasting evidence will be highlighted to elucidate the key findings.

5.4 Adapting to the evolving context to facilitate change: cultural influences.

5.4.1 Introduction.

Introduction of the ICF exposed the organisational culture. It is thought that there is often a dissonance between policy, nature of healthcare and organisational context (Parkin, 2009) and the introduction of the ICF exposed the organisational culture in this study. Ferlie and Shortell (2001) asserted that knowledge of the culture is essential, when affecting change and the following section will examine the findings of this study regarding the influence of the individuals', teams' and organisation's culture, on the capacity to change and generate resilience.

5.4.2 Team culture: staff attributes.

This section will examine aspects of PCP at the levels of; individual and team. Using McCormack and McCances's (2010) characteristics for categorisation. The focus will examine those aspects that influenced the creation of a culture of PCP within the teams. The emergence of resilience will also be considered through the prism of the Social Cognitive Theory (Bandura, 1977). This is not incorporated in McCormack and McCances's (2010) framework although closely aligned with factors such as innovation and power sharing. It is included due to its pertinence to the study's findings.

5.4.2.1 Professional competence: individual.

The research found that due to confusion over the precise nature of PCP clinicians felt they were delivering PCP, even in its absence. This echoes the observation of Ahmad and colleagues (2014) in their review of shared decision making in healthcare. In addition study participants reported philosophical, instrumental and organisational barriers to PCP competence. These findings suggest that the imprecise and multi-factorial nature of PCP results in difficulties consistently practicing person-centredness.

Patient-centredness was espoused by participants from both teams. The regulatory bodies of the disciplines engaging in the research endorse PCP (McPherson and Seigart, 2007), although it is acknowledged that there is often a gap between the rhetoric and reality (Gzil et al, 2007). Commentators have suggested that this disparity arises from the professions not wishing to relinquish power (Whalley Hammell, 2013), clinicians feeling antagonism or ill equipped to deliver PCP (Synnott et al, 2015) organisational demands being prioritised over PCP (Levack et al. 2011) or their disciplines philosophy conflicting with the principles of PCP (Mudge et al, 2015). Patients have reported limited participation even when the treating clinicians have felt they are providing PCP (Maitra and Erway, 2006). Therefore the assumption that just because the participants were members of certain professions that they would possess the awareness, knowledge, skills or attitudes to provide holistic care is questionable. In relation to the study, both teams included participants that persevered in exploring PCP over 2 years suggesting that individuals possessed a strong motivation to gain competency in PCP.

5.4.2.2 Clarity of beliefs and values: developing a team culture.

Manley (2004) proposed that values illustrate what people think ought to be done whilst beliefs suggest what is believed to be true. Findings from the study indicate that whilst the in-patient team achieved consensus, on the ICF’s application, the neurology team were unable to gain sufficient clarity for sustained and focused action. Whilst not indicative of cultural absence these results suggest a more disparate set of beliefs and values amongst the neurology participants.

The composition of the teams and participants’ experience may have influenced the different outcomes. The core in-patient team consisted of experienced clinicians whereas the neurology team was a more heterogeneous grouping. Studies investigating decision making concluded that less experienced clinicians use basic science and declarative knowledge, whereas ‘experts’ are able to encapsulate knowledge in broad ways using more general concepts (Hruska et al, 2016; Gruppen and Frohna 2002). This suggests that the more novice clinicians within the neurology team may have been reliant on clinical reasoning models aligned to a biomedical stance e.g. hypothetico- deductive, whereas the in-patient team may have been more homogenous and better equipped to embrace holistic reasoning such as the narrative model. These findings echo Parkin’s (2009) assertions that as groups grow opinions and assumptions multiply adversely effecting cohesion. Therefore the unity of the in-patient team may have led to the development of a cohesive culture not available to the neurology group. Meneghel et al (2016) postulated that a group sharing a common culture and values gains resilience through the positive emotions of carrying out actions conforming to these beliefs. This statement in itself does not explain the emergence of resilience within the team as the common culture and values needed to be explored, negotiated, refined, practiced and on occasions defended amongst the participants as part of the mechanisms of generating resilience.

Therefore, whilst the study presented opportunities to develop PCP competencies, adherence or conviction to those principles cannot be assumed or team consensus implied. When beliefs coalesced a dual process of cultural assimilation and emergent resilience resulted from engagement in the study. This was mediated by the composition of the teams.

5.4.2.3 Knowing self: capacity building and resilience (individual).

The study provided opportunities for participants to explore issues associated with PCP resulting in expanded personal knowledge and capacity. The process of engaging in action research enables participants to make sense of their knowing, and change through reflection, self-awareness, and engagement with others (Reason and Bradbury, 2006).

Engagement in the study enabled participants to develop resilience by expressing their authenticity and perspective through self- reflection and action.
Winwood and colleagues (2013) identified living authentically and maintaining perspective as factors influencing resilience in the workplace. Others have proposed relationships between resilience and self-reflection (Grant and Kinman, 2012), meaning-making and self-knowledge (Ryff, 2014) indicating that involvement in action research may have influenced resilience.

The action research process resulted in knowledge creation and shaped the emergence of resilience, enhancing team capacity and culture. This emergent resilience impacted on PCP as it enabled participants to develop these practices, regardless of contextual barriers.

5.4.2.4 Effective staff relationships.

Participating in the study influenced mutual understanding and respect and the collective resilience. These discoveries reflect the sentiments of researchers in the fields of action research and PCP who advocate that a fundamental element of the process of inquiry and change is relational (Ludema et al. 2006; Dewar et al. 2017), whereby relationships are formed and deepened. As Ludema and colleagues observed, ‘the stronger the relationships the more long lasting and effective will be the change’ (p164) suggesting that the quality of the relationships are central to the success of any change process. Effective and supportive relationships were observed within the study particularly when demonstrating resilience. Beddoe et al. (2014) in an exploratory study of resilience in social workers concluded that collegial support is vital in the nurturing of resilience.

These findings illustrate that capacity for change and the emergence of resilience can be strengthened through engagement in participatory research and the development of effective staff relationships**.** This capacity building and resilience appears to be the culmination of various inter-related factors such as shared beliefs and values leading to a collective culture that in turn results in a strengthening of relationships; engagement in action research providing the nexus for these mechanisms to occur, reflecting Allcock et al's (2015) assertion that effective change within the NHS requires 'headspace to make change happen' (p6)

5.4.2.5 Shared decision making and power sharing.

Power sharing is central to both action research and PCP (Aasgaard and Karlsson, 2012; Janes et al. 2017), although there remain challenges concerning power between the researcher and participants (Löfman et al., 2004) or within the team (McCormack and McCance, 2017). The positioning of the lead researcher has previously been examined.

Observations suggest that decision making and power was shared (during neurology research activities) although more senior staff directed when determining resource use e.g. time dedicated to research activities. Regardless, engaging in the study provided participants with the opportunity to influence practice not available outside the research process.

The in-patient team's power and decision sharing manifested through collective actions, such as the decision to develop the tool and key-worker role. This empowerment may have been fostered through the concentration of power amongst a small group, with uniformity of beliefs, suggesting that the character of the team influenced the culture of decision making and power sharing. The propensity towards collective power sharing and decision making may have been shaped by consensus over the perceived value of the decision; with the diverse opinions of the neurology team dissipating development and convergence of the in-patient team concentrating co-operation.

5.4.3 Environment: contextual influences on culture.

This section will examine aspects of PCP at the levels of: team and organisation using McCormack and McCances's (2017) characteristics to categorise. The focus will examine the context under which care is delivered concentrating on the characteristics and culture of the teams' and their relationship with wider organisation.

5.4.3.1 Commitment to the job.

Commitment is associated with intentional engagement and therefore can be a source of tension, if the engagement (the behavioural manifestation of an individual's commitment) becomes an explicit expression of cultural variances (McCormack and McCance, 2017). Findings from the study indicate that the commitment of the participants was discordant with the culture of the organisation, due to their conflicting priorities and the challenges of an evolving context. McCormack et al. (2011) suggested that contextual factors, pose the greatest challenge to PCP, when they threaten the formation of relationships and empowerment and the values that can sustain this practice. Dialogue with the managers, to engage in or support the study, proved ineffective, resulting in it being increasingly isolated from the predominant culture.

The concept of a 'cultural clash' between clinicians and managers within the NHS has been discussed. Bauman, (1990) suggested culture can be examined through the concept of in and out groups whereby one group defines itself in opposition to the other thereby establishing its self-identity and cohesiveness. Both teams (particularly the in-patient group) found a source of resilience in opposition to managerial decisions, illustrating the possible relationship between adversity and resilience (Seery et al. 2013).

5.4.3.2 Appropriate skill mix and capacity.

Changes in the teams' personnel combined with shifting demands resulted in capacity problems impacting on the momentum of the study and ability to deliver PCP.

McCormack and McCance (2017) asserted that skill mix does not acknowledge those undertakings focusing on establishing the intrinsic value of a patient e.g. time taken to develop a relationship. Both teams expressed concerns over the influence of time constraints on their capacity to deliver PCP. Similar barriers to introducing PCP, such as limited capacity and conflicting demands have been reported in UK studies (McCance et al., 2013; McCormack et al., 2010) suggesting that these issues maybe commonplace throughout the NHS.

Application of the ICF is predicated on the MDT capturing, sharing and acting upon biopsychosocial (BPS) knowledge. The BPS approach is considered complex and expensive (van Erp et al., 2015). Findings indicated that initially neither team possessed the necessary resources to deliver BPS care, due to constraints on time and confidence. Additionally, for effective BPS rehabilitation the social aspects of health require addressing. This would necessitate clinicians' co-ordinating health and social care interventions, across two culturally divergent systems; the NHS and social services (Miller, 2016) or the MDT including social care personnel. Neither team had personnel dedicated to this co-ordination. Recognition of this limitation may partly explained the reticence to address contextual factors such as personal factors.

Whilst the skill mix was inadequate findings suggest that through specific training, tool and protocol development these limitations can be mitigated. Effective introduction of the ICF therefore requires a combination of a team with a mixture of skills to work across the BPS spectrum (including social care) and tailored systems to facilitate PCP.

5.4.3.3 Shared decision making and supportive organisational systems.

The evolving organisational context led to a reduction in the structures supporting shared decision making and collective systems, resulting in a loss of leadership and a diminished culture of learning throughout the organisation. This led to an increasingly atomised organisation reliant on remote management and unilateral decision making. This impacted differently on each team: the in-patient team became a discrete entity adhering to organisational requirements while autonomously developing practices within its control; whilst contextual demands on the neurological team resulted in increasing isolation from colleagues, potentially weakening the capacity to collectively respond to the evolving context. These findings reflect those of Clarke's (2010) who identified the importance of proximity and frequency of contact in teams for the development of relationships and team cultures. This was exacerbated by an organisational recommendation that staff 'are provided with a laptop to enable remote working' (reflective diary Sept 2013). Potentially further weakening team coherence and culture through increasing isolation.

The teams engaged in development activities without explicit managerial consent e.g. the key-worker role. This resulted in developments and their artefacts (such as the ICF tool) being 'owned' by small groups or individuals rather than by the organisation as a whole. This increased the risk of practices being established without sufficient scrutiny and sustained practice being dependent on the continued presence of individual staff members, as suggested by Rushmer et al. (2004). Kislov and colleagues (2014) advocated capability development involving co-ordination between individual, group and organisational tiers. This level of intra-organisational synchronisation was weakened in the study due to the loss of a mutual learning environment and the attendant support systems.

5.4.3.4 Effective staff relationships and power sharing.

Relationships with the wider organisation reflected the evolving context and were less constructive. Connections with professional and clinical leads had diminished (through structural changes and redefinition of roles) and contact with managers became associated with censure. This led to an intensification of the cultural conflict between clinicians and managers and a loss of informal structures of communication within the organisation.

Power sharing between the teams' and the organisation became imbalanced resulting in a growing 'command and control' culture (Allcock et al., 2015) and the prioritising of external targets over local needs. The study lost effective managerial support or recognition making it and the participants vulnerable through the withdrawal of support. Whilst not explicitly prohibited the teams were expected to find additional time to engage in the study resulting in covert participation further weakening intra-organisational relationships.

In summary changes to the intra-organisational resources and structure led to the diminishing of a shared culture and creation of separate developments unrelated to the organisational values**.**

5.4.3.5 Summary.

The evolving context significantly affected the introduction of the ICF. At its start the study was endorsed by managers with organisational influence. With structural changes the study became incompatible with the organisational culture, although not from the values and beliefs of the participants. The study became a vehicle for participants (particularly from the in-patient team) to generate a resilience coalescing around the introduction of the ICF and promotion of PCP. The study and its progress were vulnerable due to its isolation from the dominant organisational culture.

These findings indicate that organisational commitment and the realities of practice can be inconsistent with the requirements of the ICF and PCP. These discrepancies may explain the fluctuating confidence around the introduction of the ICF. A significant finding is that in an adverse context resilience can emerge through engagement in participatory research and a shared team culture.

5.5 Adapting the ICF to the specific context of practice.

5.5.1 Introduction.

Introduction of the ICF into practice required its adaptation to represent the desired purpose and application of the ICF, specific to the context of each team. The following section will examine the process of modification of the ICF, focusing on the influence of PCP principles in this process.

5.5.2 Clarity of beliefs and values: unity of purpose.

A prerequisite for the introduction and subsequent adaptation of the ICF is consensus regarding its use (Tempest et al., 2012; Maini et al., 2008), this varied between the teams. The unity of purpose significantly influenced the outcome of introducing the ICF reflecting Weiner's, (2009) concept of change commitment which proposed that organisational change is mediated by a shared resolve to transform. Difficulties identifying a specific purpose for use were exacerbated by the evolving organisational demands and team composition. Ultimately the neurology team decided to support problem solving and strengthen the BPS aspect of their practice. Whilst the in-patient team agreed to synthesise subjective and objective data (to promote PCP) and create an artefact reflecting the team's culture of empowerment and MDT working.

From the perspective of utility there was consensus; that the ICF required extensive revision of both its content and language to enhance use. This included restricting its use to a communication tool through the use of a shared language, and thereby rejecting coding or 4th level analysis. This need for revision was multi-dimensional; to generate precision for clinicians to ensure realistic application and clarity for patients' for enhanced understanding. These findings reflect those studies that have implemented the ICF (Tempest et al., 2012; Maini et al., 2008) or surveyed users (Farrell et al., 2007) that have noted the complexity of framework and its language.

Additionally, participants acknowledged that the personal factors recommended by the ICF were inadequate and required further development.

Whilst consensus around adaptations for utility was universal, refining the purpose of the ICF was more problematic and significantly impacted on the eventual outcome. For the neurology team the purpose remained imprecise whereas the clarity of purpose of the in-patient team provided impetus and a focus for innovative development. Findings indicated an association between purpose and modification. An iterative process occurred between the modification of the ICF to enable trialling and following evaluation a refinement of the application resulting in further specific alterations. For this process to successfully occur the precise purpose of the ICF needed to be determined.

5.5.3 Innovation, resilience and risk.

The ICF was adapted through various innovative actions, namely: the development of the core sets; the in-patient team's generation of a patient- centred tool and; the developing the personal factors. These actions required various levels of innovation, resilience and risk taking. Resilience will be considered in more detail later in this chapter.

5.5.3.1 Developing core sets.

No set guidelines existed on creating core sets for specific teams. The neurology teams adopted a relatively orthodox method (combining two existing sets), whilst the in-patient team's approach was innovative and profound as it attempted to address the issue of co-morbidities through the creation of activity-focused core sets. The resulting set uniquely reflected the patients and their requirements, generating accurate utility whilst simultaneously moving the focus from the bio-medical (health condition) to the functional (activity). A similar approach has subsequently been used to enhance goal setting in paediatric rehabilitation (Van Dalen et al., 2013) validating this approach. The subsequent tool resembled Schein's (2004) concept of an 'artefact'; a visual expression of a group's deeper values and beliefs. This artefact not only represented co-creation it also expressed a desire to promote MDT working and emphasise the importance of activities component, within the ICF. This constitutes a risk as the biomedical culture dominates healthcare, with power residing in bio-medical knowledge (Bradby, 2012). Therefore the team was choosing to relinquish power by reducing the emphasis on their expertise in curative medicine to focus on patients' activities.

5.5.3.2 Creating a patient-centred tool.

Further innovation occurred with the decision to 'capsize' the tool by focusing on patients' subjective report and the development of the key-worker role. The term 'capsizing' ('to upset or overturn' Concise Oxford Dictionary, 1990) was coined following the proposal to develop a person-centred tool suggesting an awareness of the significance of the innovation. Consensus for this change indicates congruence with the team's beliefs and culture. From the perspective of risk the team had further relinquished power by 'putting the patient's voice first' and therefore moving further towards an equal relationship with their patients, reflecting a central tenet of PCP.

5.5.3.3 Generating the personal factors.

The neurology team's development of personal factors resulted in the collective identification of significant personal factors that are amenable to change e.g. self-efficacy. The condensing of personal factors in this way is innovative as in their current (ICF) form they are difficult to identify and operationalise and development has been problematic with limited methodological consensus (Muller and Geyh, 2014). This method may benefit future personal factors development, although significance and amenability would need to be context specific.

The context also determined the personal factors selected for the in-patient tool. The consensus to focus on personal factors that were considered significant and adaptable in the in-patient setting e.g. need for privacy. Whilst findings were positive the questions were developed without consultation with patients or key-workers constituting a limitation in the personal factor development. The resulting questions generated concerns (from the key-workers) around their intrusive nature, creating the need for further innovation e.g. training.

5.5.4 Summary.

Innovative actions unique to this study included: development of the core sets based on the activity components of the ICF (as opposed to the health condition) and personal factors tailored to each team's context and skills and; the reconfiguration of the ICF to generate a patient-centred tool and establishment of a key-worker role to oversee its use. Effective and profound innovation was associated with a robust team culture, resilience and a participatory approach. As previously discussed participatory methods of effecting change are associated with successful innovations and implementation of PCP. Waterman et al., (2007) proposed that action research is well suited to the study of innovation diffusion; the introduction of innovation (such as the ICF) to new contexts requiring high levels of modification. The authors asserted that in action research innovation and research are combined resulting in more successful innovations, reflecting the contextual needs of practice. They proposed that this is formed through an empowering participatory approach. These finding suggest that the interplay between the culture of the team and the approach to change can influence the propensity for innovative, resilient and risk taking developments.

5.6 Application of the ICF: enhancing practice.

5.6.1 Introduction.

Using the ICF tools required a combination of belief in its value, skills in application, a tool with sufficient utility and a context conducive to practice. This section will examine these factors and consider the outcomes on PCP.

5.6.2 Application: competence and utility.

Development of the neurology tool resulted in two versions (appendix D6 and 7). This stemmed from the wish for a versatile application of the ICF, potentially reflecting the divergence of opinions regarding its use. Due to difficulties identifying a specific use and vacillation to the emerging context, the neurology team had no collective consciousness of using the tool (outside study trials). Therefore this versatility represented erratic or non-existent use. One neurology participant reported tacit use of the ICF framework and stated that she would use it (with other team members) if stuck. The tacit nature of clinical reasoning has been noted by other researchers (Carrier et al., 2010) These findings are equivocal; further exploration into the issue of the use of the ICF in clinical reasoning (including tacit practice) will be needed in future research.

Either the versatile and tacit use enables the ongoing employment of the ICF or the imprecise use conceals a reluctance to use the ICF. The later explanation echoes studies examining the application or impressions of the ICF. Whilst respondents were hesitant to reject use of the ICF, they reported barriers to its application such as language and size (Tempest et al., 2012; Maini et al., 2008) or limited value (Farrell et al., 2007). Within this study barriers of language and size have been moderated through adaptation. This leaves the possibility that the participants were reluctant to reject the ICF as: it's perceived as 'good practice'; after considerable investment the participant felt tactless admitting to not using the ICF or; the ICF afforded insufficient value for the time investment. Farrell et al., (2007) reported similar discrepancies between knowledge and application of the ICF suggesting there may be some undeclared barriers to its use. Wiegand et al., (2012) in their review of the diffusion and implementation of the ICF provided a possible explanation. They argued that the limited verification of implementation aligned to the weak evidence regarding its clinical benefits may have resulted in the ICF being adopted in theory as opposed to practice. They suggested this may be due to: optional use; the time spent administering the framework; no explicit guidelines for use and; its complexity. These findings chime with those of the study, particularly from the neurology team and concerns regarding the operationalisation of the BPS model discussed earlier on which the ICF is based. This maybe significant and explain the difficulties experienced introducing the ICF into practice and why there remain relatively few implementation studies.

Application within the in-patient team was explicit; to ascertain the subjective experience of patients to inform goal setting and guide clinical intervention. Application had not been without problems e.g. nursing staff prevented from acting as key-workers requiring the renaming of the role and amending of the tool. This illustrates an ongoing vulnerability in the use of the ICF. Whilst the core team participants are in positions of authority (within the in-patient team) the artifact is likely to be protected from external threats. Although the lack of organisational endorsement and support, in addition to limited ownership from the broader team, leaves it exposed in the long-term.

5.6.3 Developed interpersonal skills.

Concerns were expressed (by key-workers) regarding the exploration of personal factors resulting in the development of training sessions exploring interpersonal skills. This led to increased confidence to explore personal and sensitive matters. Similar results were reported following communication skills training to enhance PCP

(Passalacqua and Harwood, 2012) suggesting that with skills and confidence PCP can be realised.

Effective interpersonal skills are recognised as essential in holistic care (Department of Health, 2011) suggesting that exploration of personal factors require advanced skills that are amenable to training. This finding is significant as it demonstrates the need for training, tailored to the specific staff needs and use of the ICF, for its effective introduction.

5.6.4 Working with patients' beliefs and values.

Communication between the in-patient team and patients was enhanced through the use of the ICF. The 'capsizing' of the ICF to prioritise the collection of the subjective patient experience prior to objective clinical measurement ensured that these issues were prominent when establishing goals and co-ordinating treatment. Additionally, the inclusion of the personal factor questions revealed issues that may have been overlooked and strengthened the relationship between key-workers and patients. Clack and Head (1999) proposed that the knowledge gained through relationships and intimacy can have a direct effect on care through the development of concern. These findings suggest that the in-patient modifications of the ICF and its use enhanced their PCP through strengthened relationships and understanding, although this was not verified by the patients.

The arena for disseminating the information (MDT goal setting meeting) also ensured that all treating clinicians were aware of the patients' beliefs and values.
Due to its ad hoc use it is difficult to definitively measure the effect of the ICF on the neurology team's practice. Development of the personal factors guaranteed that factors associated with patients' beliefs and values were included in the tool. The extent of the tools use or the dissemination of information amongst the MDT remains uncertain as: the tool did not become embedded into practice; designated time for application and discussion of the tools findings was limited and; individual tacit use of the tool may have occurred without the awareness of others. Further investigation of the perceived value of the ICF and how clinicians use the framework to strengthen PCP, will be needed in future research.

5.6.5 Sharing decision- making.

The ICF based tool provided opportunities (for the in-patient team) to share patients' views and clinicians' rationale for action, satisfying McCormack and McCance's (2017) PCP requirements. Although, the presence of patients at MDT goal setting was inconsistent and therefore communal decision making was not assured. The neurology team's use of the tool was more uncertain and due to contextual constraints explicit shared decision making was infrequent. Whilst tacit use was evoked and has been recognised as a major component of clinicians' reasoning (Carrier et al. 2010), it does not result in shared decision making due to difficulties conveying tacit knowledge (Mattingly and Fleming, 1994). This would suggest that the introduction of the ICF had limited influence on shared decision making. A scoping review concluded that the ICF should be used for collaborative goal setting (Constand and MacDermid, 2014), although acknowledged limitations in application around time, knowledge and terminology.

In conclusion the ICF did enhance communication amongst the MDT and with the patients. This required the creation of: a tool reflecting the specific practice and needs of the team (through extensive re-configuration of the framework); a role and protocol for tool application and; training tailored to the particular tool and its use. In the absence of these innovations tacit use of the ICF may have occurred, although its effects on practice are uncertain.

5.6.6 Providing holistic care.

Consistent use across the in-patient MDT of an ICF tool designed to reflect the specific purpose and context of practice strengthened the integration of BPS factors. Adherence to the BPS model was feasible for the neurology team, although inconsistent application of the ICF tool and contextual restraints undermine any assertions to providing holistic care. Tacit use of the ICF may have enabled separate clinicians to reflect on the BPS elements of an individual although by its nature (being tacit) this would not result in the sharing of knowledge or integration of interventions across the MDT.

There remains a question as to whether identification of BPS needs necessarily resulted in holistic care. To address participation and contextual aspects of the ICF would require long-term intervention (Gracey, Evans and Malley, 2009) and inter-agency working across health and social care (Allen and Glasby, 2010). Whether this is feasible in a time of unprecedented demand (Maguire, Dunn and McKenna, 2016) is uncertain. Although knowledge of BPS factors outside the remits of the teams facilitated ongoing referrals to outside agencies indicating an enhancing of holistic care.

5.6.7 Conclusion.

Examining the introduction of the ICF through the McCormack's and McCances's (2017) framework reveals the complexity of the process and variability of the outcomes. Figure 5.2 illustrates the interplay between the domains whereby individual prerequisites either result in a diffuse or coherent team culture. This in turn affects the team's resilience, innovation and propensity towards risk taking and eventual capacity to deliver holistic care. This analysis submits that the neurology team was unable to forge a sufficiently confident culture to innovate within an evolving context. Whereas under similar conditions the in-patient team succeeded through a shared belief and durable culture. This conclusion indicates that the environment and culture are the principle barriers to the introduction of the ICF. An alternative possibility is that the neurology team could not find sufficient utility in the ICF to pursue its introduction, suggesting a weakness in the framework rather than a problematic context. Considering the extent of modification required for basic utilisation it is probable that for effective introduction both the ICF and context requires adaptation.

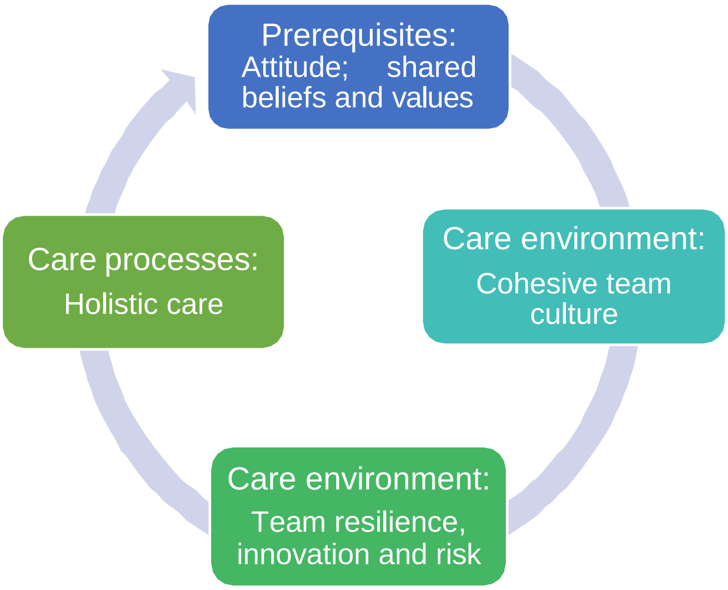


Figure 5.2 Process and outcome of introducing the ICF into an evolving context.

Both teams recognised the need to created personal factors reflecting their context as the underdevelopment of these factors undermined their ability to provide holistic care. There have been calls for the WHO to maintain proprietary rights over the use and modification of the ICF (Jelsma, 2009) and the WHO advocates that application should include use of the coding system and be restricted to the objective measurement of clinicians (WHO, 2001). These stipulations were disregarded by both teams and have been circumvented in previous implementation studies (Tempest et al. 2012; Van Dalen et al., 2013). Therefore if the ICF were to be universally used within clinical practice it would need to be adapted to reflect the specific context of practice. This creates a dilemma: either the ICF remains an unadulterated schema primarily used for comparative data or; it relinquishes its rigidity and becomes a framework that can be modified to reflect the context. Findings from this study suggest, in its current form, it cannot satisfy both demands simultaneously. This predicament may reflect the very nature of disability (as opposed to medicine) that it is by nature particular and cannot be separated from its context. This was expressed eloquently by Leplege and colleagues (2007) who asserted that, ‘disabled persons should not be reduced to their disabilities alone, but rather that their particularities, their subjectivity, their integration within a given environment, their strengths, their future plans and their rights should also be taken into account’ (p1559). The challenge for the ICF is whether it can satisfy these demands to become a tool towards PCP.

The use of action research as a methodological approach generated change at the personal and team level. Participants have a greater tacit awareness of the BPS model. The teams examined their practice through the development of the tools, enhanced their understanding of each other and improved their communication. In addition they explored the influence of PFs and created tools to capture its effect on patients. The in-patient team fundamentally changed their practice through the innovation of a patient-centred tool. Whilst the knowledge generated endures the artefacts remain vulnerable to contextual change although subsequent to the study’s finish, they were introduced to other units.

5.7 ‘Becoming’ person-centred.

Jane et al., (2017) described the Person-centred Nursing framework as providing a clear description of the destination of PCP e.g. conditions under which it can flourish, although suggested they (the participants) had been naïve regarding the complexity of the journey. These comments reflect the experience of those engaging in this study. Considering PCP from the perspective of rehabilitation there are a number of steps along the continuum towards PCP, such as use of the ICF and BPS reasoning. As was illustrated in Figure 4.12 the action cycles implied a progression between use of the ICF, dissemination of information across the MDT, the generation of BPS clinical reasoning and promotion of PCP.

Adhering to BPS principles requires ‘habits of mind’ whereby a clinician’s commits to an ongoing process of ‘becoming biopsychosocial’ (Epstein and Borrell-Carrio, 2005 p.426). This ongoing process can also be observed in the development of PCP whereby four core modes of being; being in relation; being in a social world; being in place and; being in self are required to generate a culture of PCP (McCormack and McCance, 2017). Presumably for a culture to be developed and sustained whereby all clinical staff and patients are in a constant state of being (as described by McCormack and McCance, 2017) is improbable and therefore PCP should be acknowledged as a state to strive towards as opposed to a final destination. This was the case for the teams participating in the study.

Findings from the study indicated an apparent movement towards PCP from the in-patient team whereas progress appeared limited for the neurology group. Whilst these impressions are validated through the development and use of a person-centred tool (for the in-patient team) this does not confirm that elements of PCP had not been adopted by some of the neurology participants. At an individual level a number of clinicians (from the neurology team) indicated a greater awareness of BPS reasoning and implicit use of the ICF, signifying a movement towards person-centeredness. McCormack et al., (2013) suggested that a person-centred culture can be determined through four elements: experience of good care, involvement with care, feeling of well-being and creating a healthful culture. These variables were not measured within this study and therefore PCP cannot be determined via these outcomes. This reflects that neither team had identified promotion of PCP as an outcome at the beginning of the study. Additionally, it may indicate that they started their journey towards PCP at a point where their focus was on exploring the pre-requisites and care environment elements such as implementation of the ICF and BPS reasoning, as opposed to concentrating on outcomes. This would suggest that the process of becoming person-centred is ecological whereby individuals and teams need to develop characteristics and cultures before attempting to change practice. If this is the case then the process is context-dependent, reflecting the starting point of individual's and teams and may require consensus building around characteristics and cultures prior to moving to observable changes in PCP. This suggests that both team (and individual participants) may have progressed, to different degrees towards PCP, through engagement in the study.

5.8 Key theoretical issues.

Resilience is not one of the characteristics of McCormack and McCance's, (2010) framework. This section has been included due to the significance of resilience in this study's findings. Whilst associated features such as power sharing are incorporated into the framework resilience and empowerment are absent. This may illustrate a limitation in the frameworks current form as there are recognised links between the emergence of resilience, generation of empowerment and propensity to innovate (Masten, 2001; Brodsky and Bennett Cattaneo, 2013). Although the specific relationship remains contentious, due to difficulties defining the concepts.

5.8.1 Emergent resilience: theoretical basis.

5.8.1.1 Team working and resilience.

There is an increasing recognition of the importance of team resilience on performance and innovation. This section will briefly consider the nature of adversity in the workplace, some of the characteristics associated with individual resilience and then concentrate on the mechanisms underpinning team resilience.

Individual resilience is defined as, 'recovering easily and quickly from shock, illness and hardship' (Collins English Dictionary, 1991), although Grant and Kinman's (2012) recent definition reflects it as a psychological construct whereby individuals overcome stressors or withstand negative life events and, not only recover from such experiences, but also find personal meaning in them. This would suggest that resilience can, under certain circumstances, not only enable an individual to respond to the immediate event but also develop the skills to better manage future adversity. The temporal aspect of resilience is reflected in Bonanno and Diminich's (2013) typology of resilience that differentiates between the types of resilience generated by single-incident trauma and chronic adversity. The next section will describe the nature of both the adversity and potential resilience specific to the context of the study, namely the NHS.

5.8.1.2 The workplace and adversity.

Quinlan and Bohle (2009) in their investigation of working conditions within the NHS commentated that the phenomenon of “work intensification” has reached the limits of human capacity to withstand. Other stressors associated with the health professions have been identified including time pressures, workload, having multiple roles, and emotional issues (Lambert et al., 2004; Lim, Hepworth and Bogossian, 2011). These outcomes can not only impact on the wellbeing of the individuals, but also on their ability to care effectively for others (Hall et al., 2016). These findings suggest a persistent context of adversity.

To reflect the context of this study the focus will be on chronic rather than acute adversity and the resultant resilience. Bonanno and Diminich’s (2013) typology refers to emergent resilience as being the response to ongoing adversity suggesting that it tends to lead to more enduring changes (than single incident trauma) in a wide range of psychological and physiological functions.

Presumably if the context of the NHS creates chronic adversity and this in turn can lead to emergent resilience, that results in a lasting ability to better manage future adversity then this process should be engendered within the workforce (if it is assumed that the chronic adversity cannot be avoided). In order to promote emergent resilience (as opposed to helplessness) its mechanisms need to be better understood.

5.8.1.3 Individual resilience.

Windle, (2011) acknowledged the difficulty of defining this complex construct and proposed a multilevel definition of resilience as the process of successfully adapting to significant sources of stress or trauma, facilitated by an individual’s psychological resources, life experiences, and environment. Alliger et al., (2015) expanded on this definition by proposing that an individual’s physical fitness mediated resilience echoing Beddoe, Davys and Adamson’s (2011) idea of taking care of one’s self. The same authors attempted to list those characteristics associated with resilience suggesting that they included: a positive attitude; ability to forgive; internal sense of control;

cognitive flexibility; emotional ‘‘toughness;’’ realism and; the courage to face one’s own fears. In addition they proposed determinative factors as having ample, active sources of emotional and material support (Alliger et al., 2015). From a psychological perspective resilience has been negatively associated with depression and anxiety (Catalano, 2011) and positively associated with subjective well-being (Kilic et al., 2013) and extraversion (Norlander et al., 2005). Other related factors include optimism in the face of adversity (Collins, 2008), effective coping, problem-solving (Wilks and Spivey, 2010) and self-reflection skills (Grant and Kinman, 2012). Both empathy and emotional intelligence have also been linked to the development of resilience (Morrison, 2007).

Ryff (2014) considered resilience through a eudaimonic approach. Eudaimonia emphasizes meaning-making, self-realisation and growth, quality connections to others, self-knowledge, managing life and individual autonomy. She suggested that while other formulations emphasise the link between social relationships and resilience the influence of meaning making and self-realisation are often overlooked. Ryff described meaning making as, ‘finding, and frequently creating, meaning in one’s confrontation with significant life challenge’ (p2) whereas self-actualisation is based on Maslow’s concept of realising one’s personal potential. The same author presented both empirical evidence and narrative reports, focusing on socio-economic deprivation, ill health and imprisonment to illustrate the effect of these factors on the generation of individual resilience.

These conclusions suggest that resilience is an intricate concept residing within the physical, psychological, developmental and spiritual domains of an individual.

Rajan-Rankin (2013) in her phenomenological study of social work students’ resilience warned against rejecting the influence of context on the generation (or otherwise) of resilience in the workplace. She advocated that the focus on individual skills and competencies threatens to overlook the integration of the personal and the professional on the development of resilience. She suggested that environments where culture hybridity is suppressed can lead to the reproduction of a dominant culture and a rejection of those that do not fit the orthodoxy. She proposed that this was detrimental to both the management of emotions and development of resilience.

These findings indicate that individual resilience in the workplace is a complex interaction between intrinsic personality traits, lived experience, personal resources and support and the organisational context suggesting that resilience is neither an exclusively fixed or fluid concept, that can be mediated by context. This intricacy is further highlighted by Alliger and colleagues' (2015) observation that a team made from resilient individuals may not necessarily produce a resilient team as individuals could still suffer communication difficulties, philosophical differences, or have members who are unwilling to support each other. The same authors suggested that, team members who are competent in ability and are psychologically durable may, perhaps because of their perceived ability, operate with less regard for other team members. This would suggest that the processes of generating a resilient team may be more complex than that of creating a robust individual as additional mechanisms come in to play at the collective level.

5.8.1.4 Team resilience.

Alliger et al., (2015) distinguished between individual and team resilience suggesting that a resilient team has: the capacity to withstand and overcome stressors in a manner that enables sustained performance and; can bounce back from challenges that can endanger their cohesiveness and performance. This definition focuses on collective processes such as cohesiveness reflecting the needs of the team over that of the individual. Team resilience has been less studied although the ubiquitous nature of teams throughout the workplace has now lead to increasing interest.

Meneghel, Salenova and Martinez (2016) explored the effect of positive psychology on team performance and resilience across 40 companies comprising of 216 teams and 1,076 employees based on the Fredrickson's (2004) 'broaden and build' framework of positive emotions. The authors postulated that three mechanisms explain the emergence of (positive) collective emotional development. Namely emotional contagion- a subconscious process of aligning each other's affective reactions (Hatfield et al.,1992), emotional comparison- a conscious mechanism to compare one's own feelings with those expressed by others (Schachter, 1959), and empathy- deliberately assuming others' psychological points of view (Hoffman, 1985). The authors recommended a number of methods to enhance these mechanisms including: providing opportunities to exhibit positive emotion within the team;

developing high quality group relationships; eliciting positive emotions by thinking positively and finding constructive meaning in all circumstances primarily through effective leadership and; for organisations to ensure meaning and satisfaction through work. These recommendations acknowledge the relational aspects of team resilience suggesting that this is mediated by the culture of both the teams and the organisation in which they work.

Alliger and colleagues (2015) suggested additional methods to create team resilience reflecting their NASA astronaut training background, although considered them to be generalisable. They included the development of tools for guidance in adverse circumstances, training in resilience, reflection and the creation of a team resilience culture based on support and communication. The same authors suggested certain behaviours illustrate team resilience such as, the minimising of predictable adversity, the managing of events through established procedures and the mending of teams following adversity through the processes of reflection and adaptation.

Overall these findings suggest that an interplay of close relationships, mutual understanding and support within an effectively led, organised, responsive and reflective environment focusing on common goals can result in enhanced team resilience.

5.8.1.5 Evaluating resilience: The Social Cognitive Theory (SCT).

This section will apply describe Bandura’s (1977) Social Cognitive Theory (SCT) in order to illustrate the emergence of resilience through the interplay of the personal, environmental and behavioural factors impacting on the participants. Section 4.10.1 provide additional evidence of the emergence of resilience engendered through participation in the study.

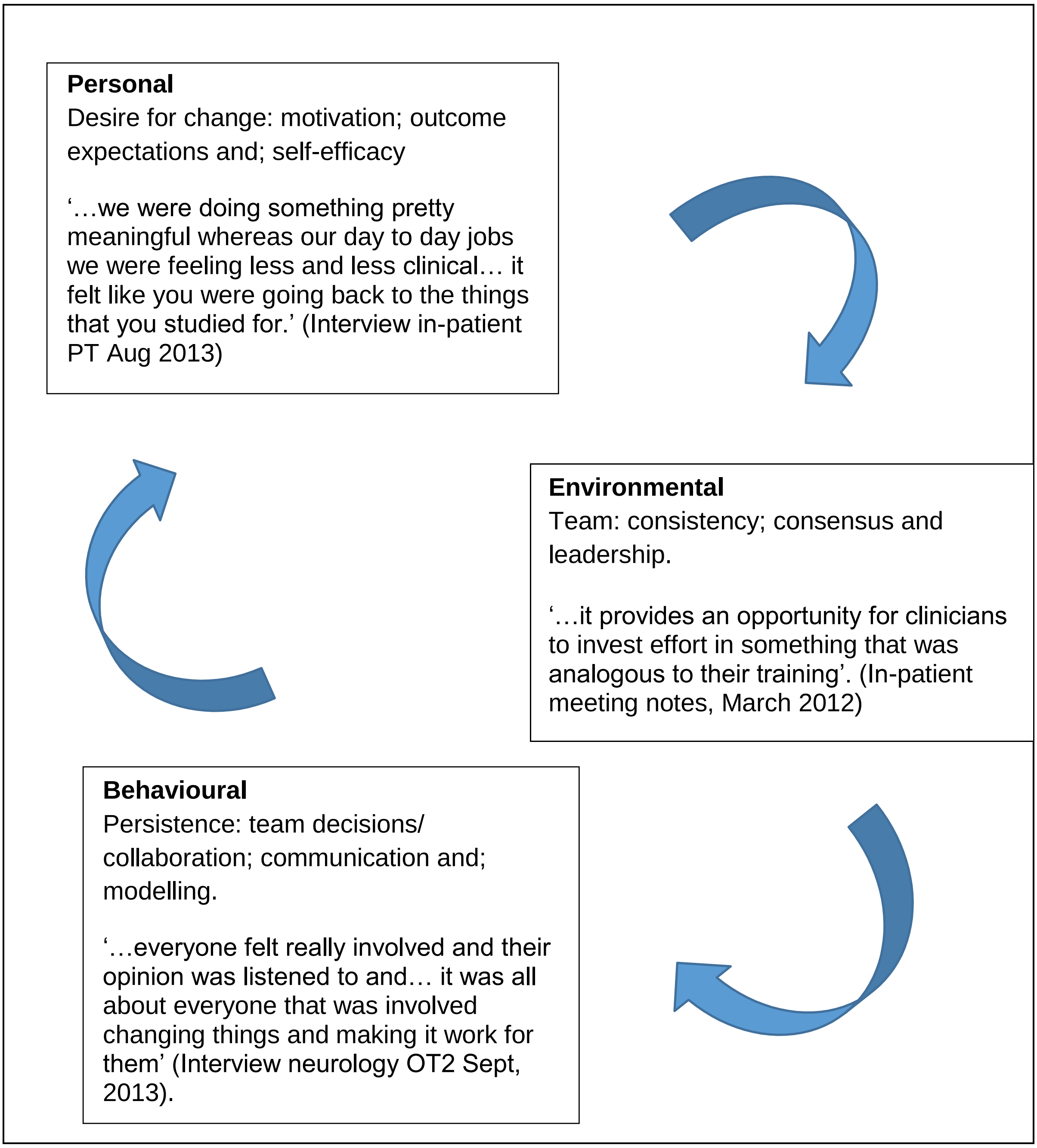
The SCT provides a framework for understanding, predicting and changing human actions. According to the SCT people are neither exclusively internally driven nor involuntarily shaped by external forces, and their actions are a product of the interplay between personal, behaviour and environment factors (Bandura, 1977, 1986). Whilst the SCT was developed to explore the actions of individuals, it has been applied at the organisational level (Wood & Bandura, 1989). Bandura (1977) described these factors as:

Personal factors: Concepts such as: motivation; self-efficacy- the belief that one can achieve desired outcomes and; outcomes expectations- a person’s estimate that a behaviour will lead to particular outcomes (Bandura, 1977).

Environmental factors: Aspects of the environment or setting that influence the individual's ability to successfully complete a behaviour (Bandura, 1977).

Behavioural factors: The response an individual receives after they perform a behaviour (Bandura, 1977).

Within a team setting these maybe the response a colleague receives and is mediated by the relationships within the team. Therefore if a valued member is seen to be behaving in a particular manner this can influence subsequent actions across the team (Bandura, 1977). Figure 5.3 illustrates how the relationship between these factors can engender resilience, drawing on evidence from the study.



Personal

Desire for change: motivation; outcome expectations and; self-efficacy

'…we were doing something pretty meaningful whereas our day to day jobs we were feeling less and less clinical… it felt like you were going back to the things that you studied for.' (Interview in-patient PT Aug 2013)

Environmental

Team: consistency; consensus and leadership.

'…it provides an opportunity for clinicians to invest effort in something that was analogous to their training'. (In-patient meeting notes, March 2012)

Behavioural

Persistence: team decisions/ collaboration; communication and; modelling.

'…everyone felt really involved and their opinion was listened to and… it was all about everyone that was involved changing things and making it work for them' (Interview neurology OT2 Sept, 2013).

Figure 5.3 The emergence of resilience through the SCT.

5.8.7 Summary.

The emergence of resilience was significant within this study as it was instrumental in the inter-related processes of cultural development and empowerment that are seen as two key prerequisites to successful PCP (McCormack and McCance, 2017).

As stated resilience is not included within the PCP framework and therefore could be considered a theoretical contribution to the body of knowledge. In this study the teams generated resilience to mitigate for the context and subsequently innovate. The confidence to innovate was more marked within the in-patient team. This may have been due to a process of shared values resulting in a collective culture that enabled sufficient empowerment to promote personal meaning within their practice e.g. PCP. This process was arrested within the neurology team, limiting the generation of resilience. Whether sufficient resilience could have occurred on an individual (as opposed to team) level to generate innovative changes in practice is unknown.

A number of studies have linked action research with the creation of resilience, through the use of inclusive, participatory methods (Hendrick and Young (2013).

These findings indicated that resilience may contribute to the creation of PCP and that this maybe generated through participatory methodology.

Chapter 6: Conclusions.

This chapter will draw together general conclusions from the research, describe contributions to new knowledge and reflect on the research process and issues of reflexivity. It will conclude by discussing implications for future research and practice.

6.1 General conclusions.

This section will reflect the action cycles by presenting the conclusions in terms of the conditions necessary to introduce the ICF into practice at different of levels of complexity and proximity to PCP (see figure 5.4). The categories are: general introduction of the ICF; the use of the ICF to generate BPS clinical reasoning and; the use of the ICF to create a culture of PCP. These categories are arranged by complexity and map the development of the ICF from a simple framework for recording data to a mechanism for cultural changes in practice. Each category will consider the influence of the introduction on the ICF, the participants, teams and context and practice, reflecting the interlinking themes identified when examining the prerequisites, processes and outcome of introducing the ICF into practice (see figure 4.15).

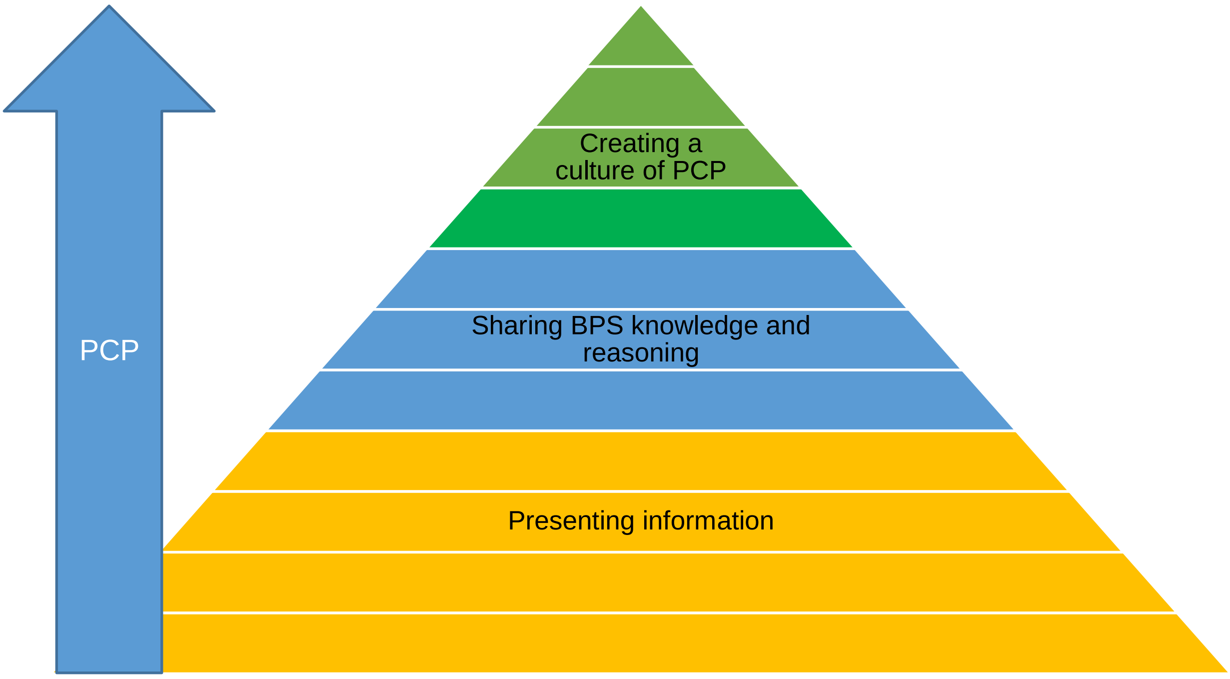


Figure 5.4 ICF: Hierarchy of application.

6.1.1 General introduction of the ICF.

Findings indicate that following modification, the BPS profile of a patient can be generated using the ICF. Neither team chose to introduce the ICF for this purpose, although to achieve more sophisticated application this process had to be undertaken and reflects the activities carried out in the innovative action cycles 2 ('Adapting the ICF for clinical use' 4.4 and 4.9).

The ICF: Due to the multiple recommended uses (and paucity of directions from the WHO) for the ICF, general implementation required a number of actions. These included identification of how and when the framework was applied and modification to reflect the context of practice. This involved the generation of a core set (reflecting the specific context) and clarification of the language. To enable these amendments to occur the WHO's protocol for use needs changing. It is incompatible for the ICF to be both a classification (of disability within the population) and clinical tool**.** Either the ICF remains an unadulterated schema used for comparative data or; it relinquishes its rigidity and becomes a framework that can be modified to reflect specific clinical contexts. Findings suggested that it cannot satisfy both demands simultaneously.

The participants, team and context: To enable general implementation the teams needed to agree on the focus of introduction, protocols to identify which disciplines are responsible for the collection of which data and how this data is then presented. This process required significant involvement from the teams' and is dependent on the participants gaining consensus regarding the aim of the introduction. This was not fully realised with the neurology team, significantly effecting the introduction of the ICF.

The practice: This level of introduction requires no significant change in the culture or everyday practice of the team and could be considered a discrete activity e.g. presenting information within a basic BPS format. Other than the production of a specific document this level of introduction does not influence routine practice although may tacitly increase the clinicians' awareness of the BPS.

6.1.2 The use of the ICF to generate BPS clinical reasoning.

This level of introduction required further actions (in addition from those described in 6.1.1) such as additional modifications to the ICF; development of the team and adjustments in practice. This was realised by the in-patient team and variably applied by the neurology participants depending on the on skill of the individual and complexity of the patient.

The ICF: To enable effective BPS reasoning the personal factors pertinent to the teams' context and practice needed to be identified and then incorporated into the framework. For the generation of BPS analysis the ICF needed to capture and synthesise both subjective and objective data. This requires fundamental changes to the WHO's protocols of use e.g. only recording objective information.

The participants, team and context: To achieve this level of application the teams needed to develop their practice. These changes included gaining a greater understanding of their practice, identifying common values and developing a shared culture resulting in greater resilience and innovative practice. In addition the in-patient team established the role of the keyworker in order to facilitate BPS clinical reasoning.

The practice: The above changes to the ICF and teams resulted in enhanced team communication through a framework for sharing perspectives, knowledge and opinions. At the patient level, heightened BPS reasoning was achieved through the synthesis of biomedical and psychosocial data leading to a greater awareness of the BPS needs of individuals.

6.1.3 The use of the ICF to create a culture of PCP.

Explicit generation of a culture of PCP was not fully realised by either team, therefore these anticipated requirements are based on those actions that resulted in promoting PCP.

The ICF: The developments previously outlined enabling modification of the framework to reflect the specific context and use of subjective data would be essential to permit the generation of PCP. In addition, development of the contextual factors with the possible inclusion of components such as spirituality, religion and economic circumstances would need to be explored to enable the ICF to become one of the person centred processes within rehabilitative PCP.

The participants, team and context: For the ICF to be an effective tool for PCP, domains and characteristics similar to those outlined in the person-centred practice framework (McCormack and McCance, 2010) would need to be in place to generate a culture of PCP.

The practice: As stated with significant revision to the purpose and application of the ICF it could become a viable person centred process for delivering PCP within rehabilitation. In addition to changes to the ICF a PCP framework specifically reflecting the practice of rehabilitation requires development. The process of generating a theoretical foundation would then be able to inform how the ICF could be modified to facilitate PCP within a unified paradigm.

6.1.4 Summary.

Introduction of the ICF was dependent on the concurrent generation of: consensus on the focus of introduction; modifications to the framework; development of the team and; the creation of a conducive practice environment. When this occurred generation led to improved communication, leading to enhanced BPS reasoning and the promotion of PCP, although this process was moderated by the practice context and inhibited by the current WHO protocols relating to the ICF. These conclusions suggested that the ICF requires significant revision (to the framework and protocol) and associated changes in the practice context to effectively be introduced into clinical practice. Additionally, application varied from consistent, explicit use of an ICF based tool to intermittent, implicit awareness of the BPS aspects affecting individual patients. Introduction entailed substantial investment on behalf of the participants, teams and organisations involved and required the use of a participatory methodology such as action research. These conclusions may go some way towards explaining the paucity of evidence regarding implementation of the ICF.

Use of the ICF to promote a culture of PCP would require further development of both the framework and practice e.g. the generation of a PCP framework for rehabilitation. These conclusions echo the previous observations that ‘becoming person-centred’ is an ongoing process where use of a revised ICF (within a systematic framework) can provide a vehicle towards BPS clinical reasoning that in turn has the potential to promote of a culture of PCP.

6.2 Contribution to action research theory and practice.

This study contributed insights into the relationship between: context and practice and; democracy, participation and resilience adding knowledge to action research theory. Findings illustrated both the influence of an evolving context on practice and the mechanisms employed by participants to mediate for these conditions, generated by engagement in the action research process.

The methodological approach also supported insights for the application of the ICF. Action research has been advocated as an effective method to bridge the gap between theory and practice in healthcare (Lifvergren et al., 2015). This study contributed to that link. Systematic reviews have reported a lag between the theoretic diffusion of the ICF and its clinical implementation (Weigard et al., 2012). The action research approach created a textured, multi-level view of the introduction of the ICF across two clinical teams. The embracing of context within action research (Reason and Bradbury, 2006) also enabled the influence of context on practice to be examined.

Methodological approaches foregoing the praxis between action and reflection would not have been able to refine theory and practice in real time. Presumably, theory generation would have occurred without the opportunity to simultaneously test it in practice. Within the study multiple action cycles occurred to refine and evaluate the ICF. If the scope of the study had been predetermined the opportunity for refinement would have been curtailed undermining the practice findings. Predetermination of the study parameters would have restricted the opportunity to respond to serendipitous occurrences, such as the one that led to the generation of the patient-centred tool. By its flexibility the methodological approach reflects the uncertainty of clinical practice and therefore well positioned to generate theories applicable to practice.

6.3 Significance.

The study produced insights that had meaning and relevance beyond the immediate context. For clinicians this included: an awareness of methods to adapt the ICF to enhance application, utility and PCP and; recognition that the ICF needs significant modification to reflect the needs and context of clinical teams. Whilst this was significant dissemination was limited as only a part of these findings have been published and diffusion of the findings was limited (within the organisation), due to conflicting priorities. Significance to the patients was reported through the promotion of PCP (especially those in the in-patient unit), although this cannot be verified through direct patient feedback. Again the significance would be enhanced through wider dissemination of the findings. Finally, the emergent resilience accompanying participation in the action research process is of particular relevance within the current economic and political context of healthcare and the NHS. These findings were presented at an international action research conference, although dissemination outside this community would be advantageous. The significance of the insights moderates concerns expressed around action research and generalisability. Knowledge generated from this study reflects findings from ICF implementation research carried out in different contexts suggesting potential generalisation.

6.4 Empirical contributions.

The empirical contributions from this study reflect the original aims in that they shape communication and clinical reasoning. The scope of each team’s reasoning was negotiated, agreed and concentrated through the development of team specific core sets. Whilst the integration of existing core sets to develop the neurology tool was distinctive, the development of the in-patient’s core sets provides the first empirical account of this method of development. The method used enabled a core set (with clinical utility) to be devised that reflected the scope of practice and needs of a service providing rehabilitation to a heterogeneous cohort of patients with co-morbidities. The process of introducing the ICF into practice across different contexts also demonstrated that for clinical utility, the ICF required adaptation to both the patient profile e.g. neurology and specific requirements of the team and wider organisation.

A further empirical contribution that enriched the communication and clinical reasoning within the teams was the development of the personal factor components of the tools. This study provided the first empirical account of how through innovative combined actions the ICF can be adapted to capture those personal factors that are both pertinent to the context of practice and amenable to intervention. Additionally, with structural changes (the introduction of the key-worker role) and training personal factors could not only be identified but within the capacity of the team addressed. This is significant as for clinical effectiveness identification of personal factors is insufficient in itself, these issues must then be tackled through skilled intervention.

The combination of these developments resulted in the enhancement of holistic, biopsychosocial care and the facilitation of PCP through the synthesising of subjective (patient reported) and objective (clinician measured) data. This study provides the first empirical evidence of how the ICF can be adapted to facilitate PCP, whereby the experience of the person with a disability directs the communication, reasoning and intervention of the clinicians.

Finally, these contributions are all dependent on significant adaptation or revision of the ICF; particularly those factors directly addressing PCP as they were reliant on the previous modifications e.g. core sets and personal factors development and required the synthesis of subjective and objective data. This adaptation involved a fundamental revision of the framework. Therefore this study provided an empirical account of the substantial modification and development of the ICF required to effectively facilitate PCP.

6.5 Theoretical contributions.

The discussion chapter demonstrated theoretical links between the introduction of the ICF and PCP. Using the ICF in conjunction with action research, to implement the theoretical framework, through the development of a MDT clinical reasoning tool exposed the organisational and team culture and changed local practice. The extent of change was mediated by the culture and context of the teams. Principally, within the in-patient team this process led to a cultural change whereby the experience and needs of the patients became more central to the clinical reasoning of the team. This in turn generated relational and communication changes aligned to the theory of PCP. Therefore this study revealed the theoretical links between the ICF and PCP, within the context of practice.

The adoption of a participatory approach (action research), in conjunction with a clinical development aligned to the values of the participants, was linked to the emergence of resilience. Whilst this connection has been recognised, the findings of this study contributes to the body of knowledge by examining this relationship and the mechanisms resulting in resilience, within a specific context addressing a particular development.

A further contribution concerns the relationship between culture, context and change. Findings indicated that these factors influenced the process and outcomes of introducing the ICF into practice. These discoveries supplement existing frameworks concerning factors that impact on the implementation of change in clinical practice (Rycroft-Malone, 2004; McCormack and McClance, 2010). In addition findings demonstrated that implementation of the ICF is susceptible to these factors potentially effecting its general utilisation.

Finally, application of the ICF exposed its incompatibility for simultaneously capturing population data and an individual's specific BPS situation. Findings indicated that the modifications required to reflect an individual's particular circumstances prohibit its use for population level data.

6.6 Limitations of the study.

The contributions of this study to action research, empirical and theoretical knowledge have been discussed. There are a number of limitations of the study specifically concerning participation. A significant drawback is the exclusion of patients from participation. The rationale for this decision has been examined. This limitation results in PCP being evaluated by observation of practice or through the opinions of clinicians. This method of data collection is insufficient to fully capture PCP in the absence of direct responses by patients. This study did not start out with the intention of promoting PCP and therefore the explicit involvement of patients was not identified. Over time as the focus concentrated towards biopsychosocial and PCP the issue of patient involvement was revisited. On each occasion the participants elected to keep participation to clinicians as they felt unconfident to expose themselves in their exploration and development of PCP.

A further participatory failing was the limited engagement of managers. The contextual factors leading to this situation have been outlined. This resulted in a number of consequences, namely: the changes brought about by the clinicians remained vulnerable due to lack of managerial awareness and support; participation and the subsequent changes became symbolic of the cultural differences between the participants and the organisation and; dissemination of the process and outcomes of the study were curtailed inhibiting organisational learning. Frequent dialogue with the managers may have improved this situation, although in the changing culture of the organisation this may have proved ineffective. Regardless, a shared commitment at the team and managerial level would have potentially resulted in more robust change.

Finally, the study's limitations in relation to mechanisms developed to promote the use of the ICF in clinical practice (core sets and linking rules) require consideration.
Core sets have previously been described (see 2.3.5). The neurology team utilised two existing sets as the basis of their tool whilst the in-patient group employed the rationale of core sets e.g. the identification of all the ICF items pertinent to their practice, as the foundation for development. Through these actions the study contributed to revealing both the limitations of core sets e.g. in populations with extensive co-morbidities and their worth as the structure to capture biopsychosocial practice within a particular context. Additionally, the study illustrated a potential method of developing core sets with utility for populations with wide-ranging co-morbidities. In summary whilst existing core sets were not directly selected for each team the underlying principles were adopted as the basis for the development of specific tools.

Linking rules were developed to link existing health information to the ICF (Cieza et al., 2019). Whilst this process satisfies several aims of the framework e.g. to generate comparable population and clinical data, it was not applicable to either teams requirement. Both teams rejected using the ICF as a mechanism for categorisation or selection of specific pre-existing tools. Contrastingly, their focus was on using the framework to collectively explore those components e.g. personal factors, affecting an individual's functioning. As discussed this approach closely aligns to PCP whereby an individual is considered within their unique context rather than being linked to a pre-existing tool. This does not make the study's position incompatible with the linking rules rather the teams' focus was on using the ICF earlier in the clinical reasoning process to identify the components affecting outcomes. It is not inconceivable that following this process the linking rules could be applied. This would need to be examined in future studies.

6.7 Reflections and reflexivity.

6.7.1 Reflection of the researcher.

This section addresses a number of issues namely: the transition from clinician to novice researcher; managing expectations of progress; personal changes in the researcher's circumstance and positioning; concerns regarding the capacity of the participants, their protection and relationship to the study.

The role of a novice researcher was challenging and fluctuated. At the start of the study the researcher's position was a Clinical Lead Occupational Therapist, with a remit across all the teams within the service. This resulted in a somewhat ambiguous role as either a clinician or manager and both part of the service but not a member of any discrete team. This ambiguity allied to a lack of confidence as a researcher lead to a number of anxieties around the perceived genesis and motivation for participation (see A1 and A2) and the capacity of the researcher to successfully carry out the research (see A3 and A4).

A1) ‘Are they (the participants) showing an interest because they’re interested or do they think they should because it’s coming from the clinical lead’ (Reflective diary January, 2010)

A2) ‘When I suggested that the study could be stopped (due to capacity issues) a participant suggested that they wouldn’t want to ‘as it will stop you getting your PhD’. Even though I said that didn’t matter I’m not convinced that this isn’t a factor for some.’ (Reflective diary December, 2010)

A3) People keep asking me whether we can do this in action research and I sort of make it up. I’m really not sure whether I understand how action research works. (Reflective diary July, 2010)

A4) ‘…scared of the research process, under normal circumstances would go ahead and explore issues now concerned- have I permission, is it the correct tool (to investigate issue) is it valid rigorous, reliable? (Reflective diary January 2010)

Dialogue box A: Concerns about motivation and competence.

These concerns were replaced by changes in the study phases and the researcher’s circumstances. The progress between the exploratory and innovation phases felt slow reflecting some of the difficulties in adapting the ICF to clinical practice and the contextual changes e.g. growing demands on the participants. This was a source of anxiety to the researcher whereby he felt the conflicting responsibilities to promote progress (and therefore maintain motivation) whilst sensing that from a research stance the perceived lack of progress reflected some of the realities of introducing the ICF and therefore should not be overtly influenced. To compound these anxieties he felt that if he were a more skilled researcher he could better manage the situation (see B1). To ameliorate these issues supervision sessions and meetings with the critical friend were used to explore the researcher’s response to these concerns.

As described the researcher’s post was deleted resulting in him becoming a permanent member of the neurology team and in the process altering his position regarding the study. This led to a number of issues: on a personal level the researcher was angry at the loss of his post and temporarily demotivated (affecting all work including the lead researcher responsibilities) and; professionally was actively questioning the wisdom of deleting clinical lead positions. The research participants were aware of these issues and personally affected by the re-organisation. This led to a situation whereby the researcher in certain settings was vocally expressing his opinions and occasionally becoming a conduit for the rehabilitation teams disquiet regarding the re-organisation, whilst recognising that (in his other guise) as a researcher he needed to be more circumspect. This was further compounded by the growing recognition of the contextual factors affecting the introduction of the ICF (regardless of any personal consequences). This led the researcher to become acutely aware of the need to reflect and recognise the valid concerns of the participants' (regarding the influence of the context) without being overtly influenced by personal emotions and not to let the study become a proxy tool to express resistance to the organisational changes (see B2 and B3). This required skilled supervision and support from both the supervisors and critical friend and reflection on the part of the researcher (see B4).

B1) 'Brief discussion with the neurology participants (following poorly attended meeting). Reasons demands on clinicians, feeling of reduced momentum and morale. Personally feel pissed off, worried, frustrated. What do I need to do to enhance participation? Is the situation such that sustaining the project is impossible? Am I doing something ++ wrong e.g. over intellectualising and therefore losing people. Combination of the 3 and maybe no desire to see ICF/ clinical reasoning?? (Reflective diary August, 2010)

B2) 'How do I maintain motivation and belief in the potency of the project whilst recognising/ expressing concerns regarding the consequence of the proposed re-organisation' (Reflective diary November 2010).

B3) 'Need to resist current temptation to convert the study into a diatribe on the re-organisation and ensure it tells the story as it unfolds' (Reflective diary November 2010).

B4) 'At the next meeting spend short time recognising effect with co-researchers and possible beneficial side of participation e.g. having control over some change'.

Dialogue box B: Managing expectation and personal concerns.

The final issue reflects the lead researcher's perceived demands on the participants. Whilst the demands on the participants increased over the duration of the study they were never insignificant. This paucity of time concerned the researcher who often felt as if he were adding to the pressure on the participants (see C1). Resulting in the researcher offering increasing assistance to the participants to reduce the impact of their involvement and on occasions suggesting the option of ending the study. Whilst the pressure on the participants was authentic these concerns may have been somewhat misplaced. On each occasion the teams declined the offer to discontinue, citing their ownership and existing investment in the study. This discrepancy between the observed demands on the participants and their subjective response may reflect the paternalistic tendencies and guilt of the researcher (see C2 and C3) and the emerging ownership of the participants towards the study (see C4).

C1) ‘How can I ask them to pilot tools or regularly meet when I know they haven’t the time to deal with the basic demands. It feels rather indulgent’. (Reflective diary, Sept 2011)

C2) ‘The in-patient team decided to meet for a day to properly develop the key-worker role and tool. The impression I got was that this may cause some trouble. I offered to re-iterate the agreement that clinicians are free to participate. They told me not to worry that they’d manage’. (Reflective diary June, 2012)

C3) ‘The worst bit is when they apologise for not having done everything. I’m amazed they’re still doing anything’. (Reflective diary April, 2011)

C4) ‘When I suggested that the team might want to consider ending the study a number of co-researcher said they’d invested too much to give up now’. (Reflective diary March, 2012)

Dialogue box C the capacity of the participants, their protection and relationship to the study.

This section has focused on some of the challenges experienced by the researcher. Feedback from participants (see 5.3.3.4) and the perseverance of two teams over a two year period indicates that whilst the researcher started as a novice he had sufficient skills to facilitate the study.

6.7.2 Reflexivity.

Bolton, (2010) suggested that reflexive thinkers make aspects of the self, strange by standing back from their beliefs, values and professional identities, and focusing on how they are embedded in cultural structures. When applying this process to the research a number of issues emerge, namely:

Implication of context: This issue concerns a number of actions and their subsequent interpretation. The adversity of the context has been implicated in the neurology team’s inability to introduce the ICF into practice. Whilst the environment was challenging this may not fully account for this result. An alternative explanation maybe that a number of the team could not detect sufficient value in the ICF to warrant its application. This interpretation may have initially been devalued by the participants and lead researcher due to their perception of the ICF having innate worth, a wish to discover a sophistication in the framework that would significantly enhance their practice and a reluctance to terminate the research. This resulted in the neurology team persevering to find utility for the ICF despite findings indicating limited value.

From the lead researcher’s perspective, increased attentiveness and reflection regarding the concerns expressed during the earlier phases of the study may have guided me to explore this issue more explicitly. A small number of participants who initially described the shortcomings of the ICF appeared reluctant to embrace change and advocated a more bio-medical stance to practice. On reflection the disparity between their espoused worldview and the foundation of the ICF (the BPS model) and my own epistemological position may have led to a devaluing of their judgements. Additionally, a personal desire to discover a means to enhance BPS reasoning and promoting PCP may have influenced my understanding of these actions.

Exclusion of patients: Due to its significance this aspect needs to be considered through the perspective of reflexivity. Initially, the clinicians expressed uncertainty regarding their understanding of the ICF and therefore excluded patients from participation as they did not wish to expose their limited knowledge. As the research progressed the focus sharpened towards BPS reasoning and PCP, whilst the influence of the evolving context became apparent. This resulted in the in-patient team using the research as a means of embodying their collective resistance to the organisational culture. This led to a strengthening of the team (that paradoxically resulted in continued exclusion of the patients) as research meetings were often a vehicle for expressing opposition to the prevailing culture. Whilst this may appear a rational decision it echoes some commentators’ questioning of professionals’ wish to preserve prestige and assert power (Whalley Hammell, 2013) and maintain professional detachment (Macleod and Mcpherson, 2007). Similar issues influenced the neurology team whereby initial insecurity was continued through ongoing divergence as to the focus of the research and the adversity of the context. These findings question the awareness of both the participants and lead researcher regarding the unconscious imbalance of power between clinicians and patients. Paradoxically, they also disclose the potential insecurity of clinicians (and the lead researcher) whereby they felt unable to reveal limitations of knowledge or the inadequacies of the practice context to patients, further consolidating the distance between clinicians and patients.

Exclusion of the ‘broad’ in-patient team: Exclusion of these members was not explicit, evolved over time and was outwardly a pragmatic decision. It resulted in developments, such as the creation of the personal factors, being undertaken without representation from those tasked to apply the tool. Whilst this oversight was subsequently acknowledged (following feedback from the ‘broad team’) and additional support provided, it revealed the limitations of the in-patient representation e.g. senior therapy and nursing staff only. The rationale for limited representation was that more junior (or unqualified) staff either worked shift patterns or had less autonomy regarding attending research meetings. These decisions potentially reinforced a power imbalance between different staff groups whereby senior staff are disproportionately involved in development projects.

Exclusion of managers: Exclusion of managers was not a conscious decision with a senior manager planning to participate prior to her position changing. Omission of managers evolved overtime and was never explicitly acknowledged. The genesis for this situation was the change in the culture of the organisation and subsequent positioning of the managers. These alterations resulted in less contact and a perceived distancing between clinicians and managers. As previously implied this evolved whereby the in-patient team used the research as a means of embodying their collective values (reflecting Schein’s concept of an ‘artefact’).

Due to the neurology teams difficulties finding a focus for the ICF they were reluctant to include managers as they had no explicit tool to present and were reluctant to show their perceived lack of progress and inability to gain consensus.

From a lead researchers stance whilst acknowledging the risk of the study becoming a proxy tool (to express resistance to changes) it is possible that I didn’t have the emotional ‘distance’ (or research experience) to avoid this outcome. Additionally, the values expressed by the participants closely aligned with my own possibly inhibiting my inclination to question the absence of managers.

The potential result of these actions are mixed. If managers had participated they may have had greater insight to issues impacting on the clinical teams and supported changes in practice. Conversely, managerial participation may have constrained the emergent resilience (generated through the process of engaging in the research), by inhibiting the generation of a common culture and values.

6.7.3 Conclusion.

Due to the methodology (iterative and cyclical), longevity and extent (across two teams) of the research a substantial number of actions and subsequent interpretations occurred, requiring reflexive thought. The previous examples provided illustrations of this process. Chapter 4 describes all the significant actions, methods of analysis and resulting interpretation of the study.

6.8 Implications for future research and practice.

The following recommendations and implications for research and practice arise from this study’s findings.

Research.

Further research recommendations focus on the: need to explore the implementation and development of the ICF, to clinical practice and promotion of PCP; the enhancement of resilience and; the use of action research as the methodological framework.

- Repetition of this study in different clinical contexts using the same methodological framework would begin the knowledge generation process required to identify: whether the ICF enhances practice and; if used the focus and modifications required to meet local needs. This would then enable analysis to be carried out (through meta-synthesis) to examine these factors.
- Further multi-factorial examination and development of the ICF contextual factors is required. These studies would need to explore: how this information is used and the associated ethical issues; the content of each of these components e.g. the inclusion of socioeconomic or spiritual items and; the methodology required to capture this data.
- Additional studies exploring the implementation of PCP within rehabilitation would be beneficial. This would generate further knowledge to inform a

narrative around the nature and implementation of PCP within rehabilitation.

- Further studies specifically examining the ICF introduction on PCP would support the process of analysing the extent to which the framework can facilitate PCP. These studies would need to use the same methodology to capture the context and processes required to promote PCP and include patients as participants.
- Further research examining the relationship between engagement in action research (and other participatory methodologies) and the generation of resilience.
- Additional studies to examine the transactional influences of resilience on the promotion of a culture of PCP within complex organisational systems.
- Investigation into the development of the ICF to enable the synthesis of objective and subjective data to facilitate BPS reasoning.

Practice.

Further recommendations for practice concentrating on the biopsychosocial and PCP aspects of rehabilitation, namely:

- Increased awareness through training and continuing professional development of the principles, concepts and practice of person-centredness. This would enable clinicians to explore those aspect of PCP that they felt were pertinent and establish how they can be implemented in practice.
- Increased awareness through training and continuing professional development of clinicians of the social determinates of health, including those personal factors that mediate health outcomes and how to address them.
- Further communication and integration between the health and social care sectors to effectively provide biopsychosocial interventions and address the social determinants of health impacting on individuals. This would require a systematic approach at the policy, organisational, team and individual level.

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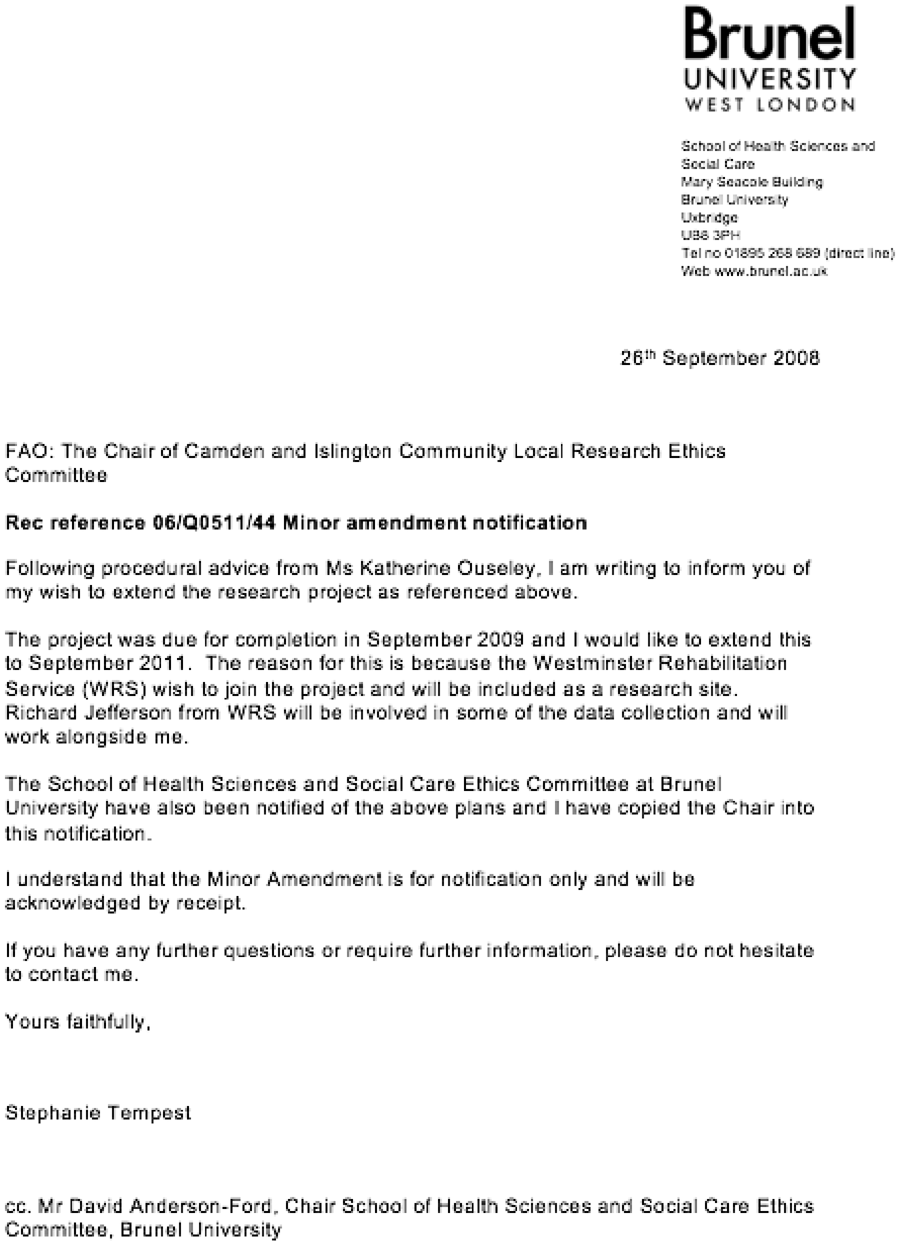
Appendix A



Brunel
UNIVERSITY
WEST LONDON

School of Health Sciences and
Social Care
Mary Seacole Building
Brunel University
Uxbridge
UB8 3PH
Tel no 01895 268 689 (direct line)
Web www.brunel.ac.uk

26th September 2008

FAO: The Chair of Camden and Islington Community Local Research Ethics Committee

Rec reference 06/Q0511/44 Minor amendment notification

Following procedural advice from Ms Katherine Ouseley, I am writing to inform you of my wish to extend the research project as referenced above.

The project was due for completion in September 2009 and I would like to extend this to September 2011. The reason for this is because the Westminster Rehabilitation Service (WRS) wish to join the project and will be included as a research site. Richard Jefferson from WRS will be involved in some of the data collection and will work alongside me.

The School of Health Sciences and Social Care Ethics Committee at Brunel University have also been notified of the above plans and I have copied the Chair into this notification.

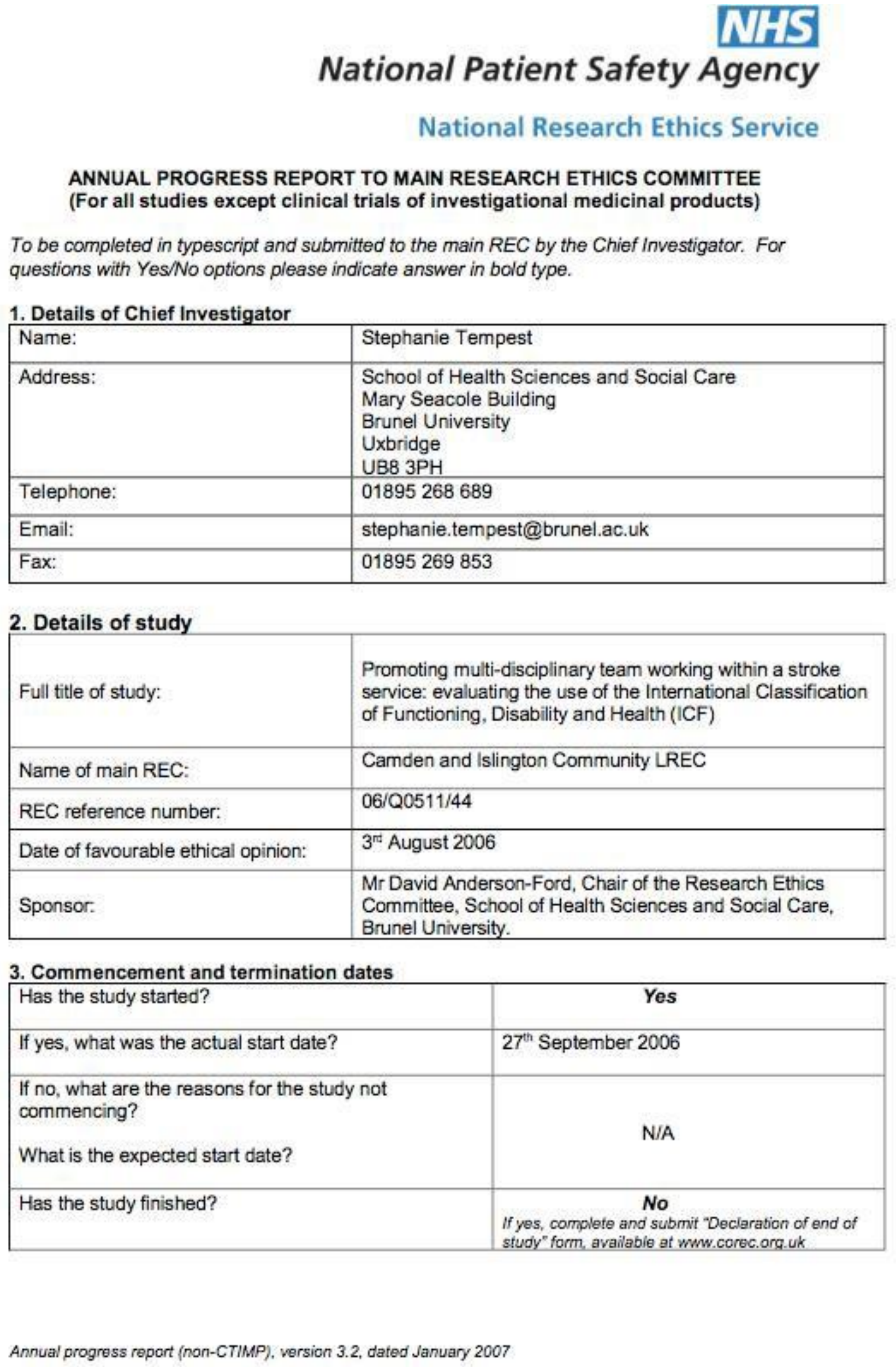
I understand that the Minor Amendment is for notification only and will be acknowledged by receipt.

If you have any further questions or require further information, please do not hesitate to contact me.

Yours faithfully,

Stephanie Tempest

cc. Mr David Anderson-Ford, Chair School of Health Sciences and Social Care Ethics Committee, Brunel University



NHS
National Patient Safety Agency

National Research Ethics Service

ANNUAL PROGRESS REPORT TO MAIN RESEARCH ETHICS COMMITTEE
(For all studies except clinical trials of investigational medicinal products)

To be completed in typescript and submitted to the main REC by the Chief Investigator. For questions with Yes/No options please indicate answer in bold type.

1. Details of Chief Investigator

Name:	Stephanie Tempest
Address:	School of Health Sciences and Social Care Mary Seacole Building Brunel University Uxbridge UB8 3PH
Telephone:	01895 268 689
Email:	stephanie.tempest@brunel.ac.uk
Fax:	01895 269 853

2. Details of study

Full title of study:	Promoting multi-disciplinary team working within a stroke service: evaluating the use of the International Classification of Functioning, Disability and Health (ICF)
Name of main REC:	Camden and Islington Community LREC
REC reference number:	06/Q0511/44
Date of favourable ethical opinion:	3rd August 2006
Sponsor:	Mr David Anderson-Ford, Chair of the Research Ethics Committee, School of Health Sciences and Social Care, Brunel University.

3. Commencement and termination dates

Has the study started?	***Yes***
If yes, what was the actual start date?	27th September 2006
If no, what are the reasons for the study not commencing? What is the expected start date?	N/A
Has the study finished?	***No*** *If yes, complete and submit "Declaration of end of study" form, available at www.corec.org.uk*

Annual progress report (non-CTIMP), version 3.2, dated January 2007

If yes, complete and submit "Declaration of end of study" form, available at http://www.nres.npsa.nhs.uk/applications/after-ethical-review/endofstudy/	

If no, what is the expected completion date? *If you expect the study to overrun the planned completion date this should be notified to the main REC for information.*	The data collection at the Royal Free Hospital has been completed. However, the study was extended to include Westminster PCT with an anticipated completion date of September 2012.
If you do not expect the study to be completed, give reason(s)	The anticipated completion date has been extended for another year. Participants are clinicians within a PCT that has undergone significant restructuring; action research studies are flexible within their construction and it is common for the 'end' date to move, whilst maintaining / enhancing the study design.

4. Site information

Do you plan to increase the total number of sites proposed for the study? If yes, how many sites do you plan to recruit?	***No***

5. Recruitment of participants

In this section, "participants" includes those who will not be approached but whose samples/data will be studied.

Number of participants recruited:	*Proposed in original application: 30+* *Actual number recruited to date: see**
Number of participants completing trial:	*Actual number completed to date: see**
Number of withdrawals from study to date due to: (a) withdrawal of consent (b) loss to follow-up (c) death (where not the primary outcome) *Total study withdrawals: Nil – participants are all clinical staff. The nature of action research projects is such that participants can enter and leave the study at any time, therefore actual 'trial' numbers are not applicable	
*Number of treatment failures to date (prior to reaching primary outcome) due to: (a) adverse events (b) lack of efficacy	

Have there been any serious difficulties in recruiting participants?	***No***
If Yes, give details:	N/A
Do you plan to increase the planned recruitment of participants into the study? *Any increase in planned recruitment should be notified to the main REC as a substantial amendment for ethical review.*	*. Please note that participation remains open to all clinicians working in the team therefore if new staff join the team, they may wish to be involved.*

** In the case of international trials, please provide separate figures for UK and non-UK participants.*

6. Safety of participants

Have there been any *related* and *unexpected* Serious Adverse Events (SAEs) in this study?	***No***
Have these SAEs been notified to the Committee? *If no, please submit details with this report and give reasons for late notification.*	*Not applicable*
Have any concerns arisen about the safety of participants in this study? *If yes, give details and say how the concerns have been addressed.*	***No***

7. Amendments

Have any substantial amendments been made to the trial during the year?	***No***
If yes, please give the date and amendment number for each substantial amendment made.	

8. Other issues

Are there any other developments in the study that you wish to report to the Committee?	*1) A minor notification was submitted and noted in September 2008. Camden and Islington NRES were notified of the inclusion of a co-researcher (Richard Jefferson) from Westminster PCT. He has subsequently registered the Westminster branch of the project as a PhD at Brunel University.* *2) The original study was registered for a PhD at Brunel University. The due date for completion of the academic qualification has been extended by one year (to Sept 2010) due to a period of maternity leave for the CI.*
Are there any ethical issues on which further advice is required?	***No***

	If yes to either, please attach separate statement with details.

9. Declaration

Signature of Chief Investigator:	
Print name:	Stephanie Tempest
Date:	7th October 2009

NHS
Health Research Authority

DECLARATION OF THE END OF A STUDY

(For all studies except clinical trials of investigational medicinal products)

To be completed in typescript by the Chief Investigator and submitted to the Research Ethics Committee (REC) that gave a favourable opinion of the research within 90 days of the conclusion of the study or within 15 days of early termination.

For questions with Yes/No options please indicate answer in bold type.

1. Details of Chief Investigator

Name:	**Dr Stephanie Tempest**
Address:	**Mary Seacole Building, Brunel University London, Uxbridge, UB8 3PH**
Telephone:	**01895 268689**
Email:	**Stephanie.tempest@brunel.ac.uk**
Fax:	

2. Details of study

Full title of study:	**Promoting multi-disciplinary team working within a stroke service: evaluating the use of the International Classification of Functioning, Disability and Health (ICF)**
Research sponsor:	**David Anderson-Ford, Brunel University London**
Name of REC:	**London - Camden & Kings Cross Research Ethics Committee**
REC reference number:	**06/Q0511/44**

3. Study duration

Date study commenced:	**August 2006**
Date study ended:	**November 2014**
Did this study terminate prematurely?	*No* *If yes, please complete sections 4, 5, 6, & 7.* *If no, please go direct to section 8.*

4. Recruitment

Number of participants recruited	
Proposed number of participants to be recruited at	

Declaration of end of study (non-CTIMP), version 1.3, August 2014

the start of the study	
If different, please state the reason or this	

5. Circumstances of early termination

What is the justification for this early termination?	

6. Temporary halt

Is this a temporary halt to the study?	*Yes / No*
If yes, what is the justification for temporarily halting the study? When do you expect the study to re-start?	*e.g. Safety, difficulties recruiting participants, trial has not commenced, other reasons.*

7. Potential implications for research participants

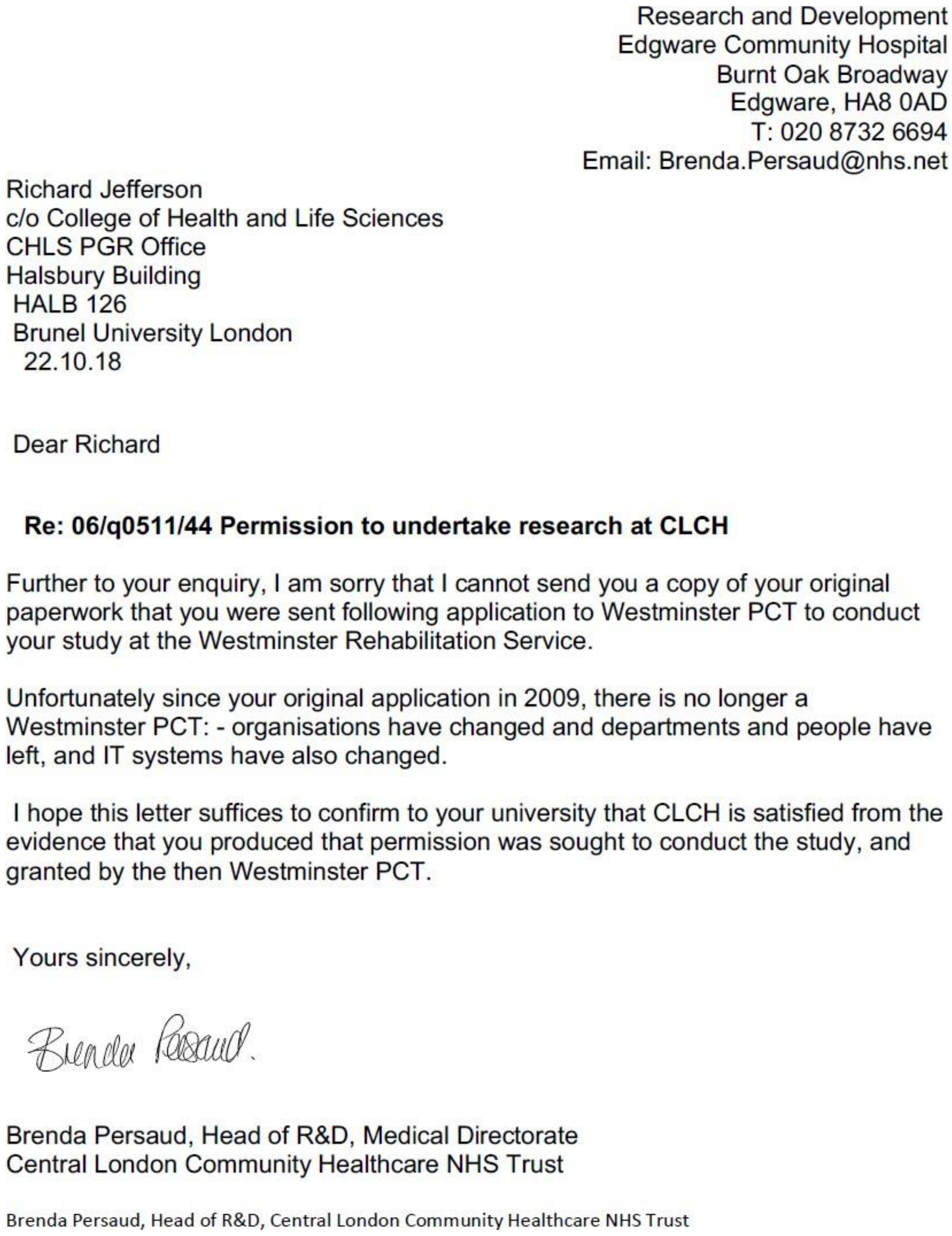
Are there any potential implications for research participants as a result of terminating/halting the study prematurely? Please describe the steps taken to address them.	

8. Final report on the research

Is a summary of the final report on the research enclosed with this form?	*Yes* *If no, please forward within 12 months of the end of the study.*

9. Declaration

Signature of Chief Investigator:	STempest
Print name:	18/11/15 STEPHANIE TEMPEST
Date of submission:	18/11/15



Research and Development
Edgware Community Hospital
Burnt Oak Broadway
Edgware, HA8 0AD
T: 020 8732 6694
Email: Brenda.Persaud@nhs.net

Richard Jefferson
c/o College of Health and Life Sciences
CHLS PGR Office
Halsbury Building
HALB 126
Brunel University London
22.10.18

Dear Richard

Re: 06/q0511/44 Permission to undertake research at CLCH

Further to your enquiry, I am sorry that I cannot send you a copy of your original paperwork that you were sent following application to Westminster PCT to conduct your study at the Westminster Rehabilitation Service.

Unfortunately since your original application in 2009, there is no longer a Westminster PCT: - organisations have changed and departments and people have left, and IT systems have also changed.

I hope this letter suffices to confirm to your university that CLCH is satisfied from the evidence that you produced that permission was sought to conduct the study, and granted by the then Westminster PCT.

Yours sincerely,

Brenda Persaud.

Brenda Persaud, Head of R&D, Medical Directorate
Central London Community Healthcare NHS Trust

Brenda Persaud, Head of R&D, Central London Community Healthcare NHS Trust

Appendix A: Letters of approval.

Appendix B.

Platform		Ovid	
Search ID	Search Terms	Search options	Results
1	person centr* practice or person-centr* practice or client centr* practice or client-centr* practice)	yr="2001 -Current"	858
2	rehab*	all fields yr="2001 -Current"	241045 32326
3	(theor* or concept*	all fields yr="2001 -Current"	1294810 148687
1,2,3			336

Platform		EBSCO	
Search ID	Search Terms	Search options	Results
1	person centr* practice or person-centr* practice or client centr* practice or client-centr* practice)	yr="2001 -Current"	486
2	rehab*	yr="2001 -Current"	303447
3	(theor* or concept*	yr="2001 -Current"	888561
1,2,3			40

Appendix B1: Summary of phase 1 search strategy.

Literature search- selected papers

Ahmad, N., Ellins, J., Krelle, H., Lawrie, M. (2014). *Person-centred care: from ideas to action. Bringing together the evidence on shared decision making and self-management support.* London, The Health Foundation.

Alford, V., Ewen, S., Webb, G.R., McGinley, J., Brookes, A., Remedios, L.J. (2015). The use of the International Classification of Functioning, Disability and Health to understand the health and functioning experiences of people with chronic conditions from the person perspective: a systematic review. *Disability and Rehabilitation*, 37 (8): 655-666.

Allcock, C., Dorman, F., Taunt, R., Dixon, J. (2015). *Constructive comfort: accelerating change in the NHS.* London, The Health Foundation.

Beckett, P., Field, J., Molloy, L., Yu, N., RN, B Holmes, D., Pile, E. (2013). Practice What You Preach: Developing Person-Centred Culture in Inpatient Mental Health Settings through Strengths-Based, Transformational Leadership. *Issues in Mental Health Nursing*, 34: 595-60.

Cott, C.A. (2004). Client-centred rehabilitation: client perspectives. *Disability and Rehabilitation,* 26 (24): 1411-1422.

Cott, C., Wiles, R., Devitt, R. (2007). Continuity, transition and participation: Preparing clients for life in the community post-stroke. *Disability & Rehabilitation,* 29: 20-21.

Dean, S., Ballinger, C. (2012). Chapter 3: 45-78. An interprofessional approach to rehabilitation, in: Dean, S. Siegert, R. Taylor, W. (eds). *Interprofessional Rehabilitation: A Person-Centred Approach,* 1st edn. West Sussex, Wiley-Blackwell.

Department of Health (2010) *Equity and Excellence: Liberating the NHS.* http://tinyurl.com/3328s6x

Dewar; B., Sharp, C. (2013). Appreciative dialogue for co-facilitation in action research and practice development. *International Practice Development Journal,* 3 (2): 1-10.

Dewar, B., McBride, A and Sharp, C (2017) Person-centred research, in McCormack, B and McCance, T *Person-Centred Practice in Nursing and Health Care* (2nd ed.) Wiley-Blackwell

Dewing, J., Traynor, V. (2005). Admiral nursing competency project: practice development and action research. *Journal of Clinical Nursing,* 14: 695-703.

Eaton, S., Roberts, S., and Turner, B. (2015) Delivering person centred care in long term conditions. *BMJ*; 350:1-4

Gzil, F., Lefeve, C., Cammelli, M., Pachoud, B., Ravaud, J.F., Leplege, A. (2007). Why is rehabilitation not yet fully person-centred and should it be more person-centred? *Disability Rehabilitation,* 29: 1616-1624.

Jackson, C and Webster, A (2011) Swimming against the tide - developing a flourishing partnership for organisational transformation. *International Practice Development Journal* 1 (2); 1-11

Jacobs, G.C. (2015). Guest editorial: The currentness of person-centred practice. *International Practice Development Journal,* 5 (Suppl 1): 1-15.

Jensen, L.H., Håvarstein Rekve, K., Ulstein, I.D., Skovdahl, K. (2016). Promoting independence at mealtimes for older persons with severe dementia. International Practice Development Journal 6 (2) 1-13

Kjellberg, A., Bouc, V., Haglund, L. (2012) Utilization of an ICF-based assessment from occupational therapists' perspectives. *Scandinavian Journal of Occupational Therapy.* 19: 274-281

Leplege, A., Gzil, F., Cammelli, M., Lefeve, C., Pachoud, B., Ville, I. (2007). Person-centredness: Conceptual and historical perspectives. *Disability and Rehabilitation,* 29 (20-21): 1555-1565.

Gunilla M. Liedberg, G., Bjork, M,. Hensing, G (2010) Occupational therapists' perceptions of gender – A focus group study. Australian Occupational Therapy Journal. 57, (5): 331–338

Luthi, H., Geyh, S., Baumberger, M.E., Doklada, P., Scheuringer, M., Mader, M., Cieza, A. (2011). The individual experience of functioning and disability in Switzerland- patient perspective and person-centeredness in spinal cord injury. *Spinal Cord,* 49: 1173-1181.

Macleod, R., Mcpherson, K.M. (2007). Care and compassion: part of person-centred rehabilitation, inappropriate response or a forgotten art? *Disability and Rehabilitation,* 29: 20-21.

Maitra, K. K. & Erway, F. (2006). Perception of client-centred practice in occupational therapists and their clients. *American Journal of Occupational Therapy, 60:* 298-310.

Manley, K., Sanders, K., Cardiff, S., Webster, J. (2011). Effective workplace culture: the attributes, enabling factors and consequences of a new Concept. *International Practice Development Journal* 1 (2): 1-29.

Manley, K. (2017). An overview of practice development. , in McCormack, B and McCance, T *Person-Centred Practice in Nursing and Health Care* (2nd ed.) Wiley-Blackwell

McCance, T., Gribben, B., McCormack, B., Laird, E.A. (2013). Promoting person-centred practice within acute care: the impact of culture and context on a facilitated practice development programme. *International Practice Development Journal,* 3 (1): 1-17.

McCormack, B and McCance, T. (2017) *Person-Centred Practice in Nursing and Health Care* (2nd ed.) Wiley-Blackwell

McCormack, B., Borg, M., Cardiff, S., Dewing, J., Jacobs, G., Janes, N., Karlsson, B., McCance, T., Mekki, T.E., Porock, D., van Lieshout, F., Wilson, V. (2015). Person-centredness – the 'state' of the art. *International Practice Development Journal,* 5 (Suppl): 1-15.

McCormack, B., Dewing, J., Breslin, L., Coyne-Nevin, A., Kennedy, K., Manning, M., Peelo-Kilroe, L., Tobin, C., Slater, P. (2010). Developing person-centred practice: nursing outcomes arising from changes to the care environment in residential settings for older people. *International Journal of Older People Nursing*, 5: 93-107.

McCormack, B., Dewing, J., McCance, T. (2011). Developing person-centred care: addressing contextual challenges through practice development. *Online Journal of Issues in Nursing,* 16 (2), manuscript 3: 1-10.

McPherson, K. and Siegert, R. (2007) Person-centred rehabilitation: Rhetoric or reality?, Disability and Rehabilitation, 29:20-21, 1551-1554

Mudge, S., Stretton, C., Kayes, N. (2014). Are physiotherapists comfortable with person-centred practice? *Disability Rehabilitation,* 36 (6): 457-463.

Njelsani, J., Teachman, G. Durocher, E., Hamdani, Y., Phelan, S.K. (2015). Thinking critically about client-centred practice and occupational possibilities across the life-span. *Scandinavian Journal of Occupational Therapy,* 22: 252-259.

Palmadottir, G. (2006). Client–therapist relationships: Experiences of occupational therapy clients in rehabilitation. *British Journal of Occupational Therapy,* 69: 394-401.

Papadimitriou, C., Cott, C. (2015). Client-centred practices and work in inpatient rehabilitation teams: results from four case studies, *Disability and Rehabilitation,* 37 (13): 1135-1143.

Rushworth, N. (2015). Imagining Hope from Dante's *Inferno*: Observations on 'Person-centred Practice'. *Brain Impairment,* 16 (1): 71-74.

Slater, P., McCance, T., McCormack, B. (2015). Exploring person-centred practice within acute hospital settings. *International Practice Development Journal*, 5 (Suppl): 1-8.

Sugavanam, T., Mead, G., Bulley, C., Donaghy, M., van Wijck, F. (2013). The effects and experiences of goal setting in stroke rehabilitation – a systematic review. *Disability and Rehabilitation,* 35 (3): 177-190.

Sumsion, T., Lencucha, R. (2009). Therapists' perceptions of how teamwork influences client-centred practice. *British Journal of Occupational Therapy,* 72 (2): 48-54.

Turner-Stokes, L. (2009). Goal attainment scaling (GAS) in rehabilitation: a practical guide. *Clinical Rehabilitation*, 23: 362-370.

Van de Velde, D., Devisch, I., De Vriendt, P. (2016). The client-centred approach as experienced by male neurological rehabilitation clients in occupational therapy. A qualitative study based on a grounded theory tradition. *Disability and Rehabilitation,* 38 (16): 1567-1577.

Wade, D.T. (2015). Rehabilitation – a new approach. Part two: the underlying theories. *Clinical Rehabilitation*, 29 (12): 1145–1154.

Whalley Hammell, K. (2007). Review Experience of rehabilitation following spinal cord injury: a meta-synthesis of qualitative findings. *Spinal Cord*, 45: 260-274.

Whalley Hammell, K. (2013). Client-centred practice in occupational therapy: Critical reflections. *Scandinavian Journal of Occupational Therapy,* 20: 174-181.

World Health Organization (2015). *WHO global strategy on people-centred and integrated health services Interim Report.* Geneva, WHO.

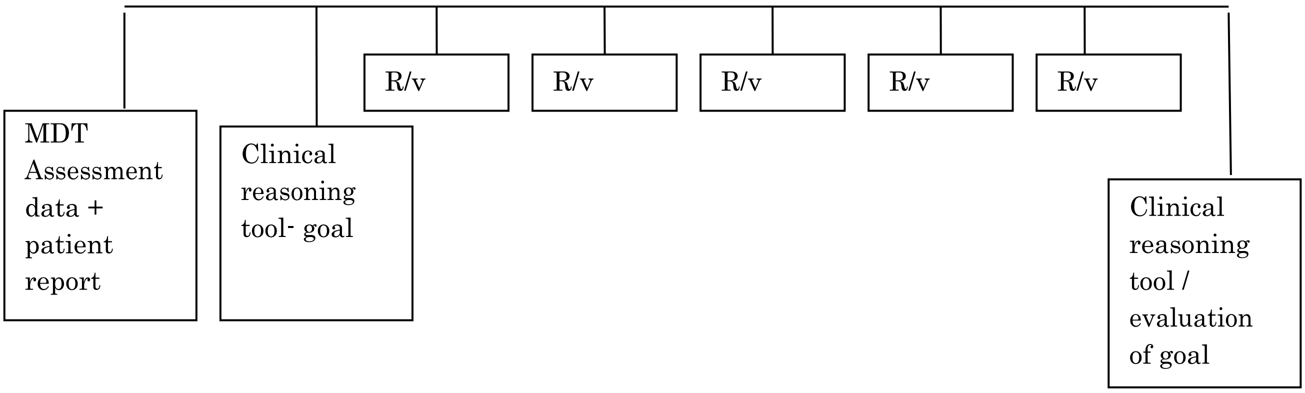
Appendix B2: List of reviewed articles.

Appendix C.

ICF Research: In-patient

Desired properties of the tool:

- MDT- Common framework.
- 2nd ICF level (possibly further categorisation for more complex patients).
- Patient lead/ focused/ involvement.
- Recognised pathway for use: when used/ reviewed/ time frames between reviews- possibly weekly.
- Clinically applicable e.g. not too time consuming.
- Identifies needs (including context) and leads to goals.
- Serves as a single point of summary for patient e.g. all encompassing; multi-disciplinary; includes care plan.
- To be used in goal setting and treatment planning.
- To be used initially by MDT/ reviewed weekly (key worker)/ full review MDT (see diagram).



Suggested protocol:

- Use tool to collect/classify areas identified as needing addressing- data provided by all MDT members through assessment process.
- *Select relevant chapters from ICF Body function/ structure for further classification.
- Select relevant chapters from ICF activity and participation for further classification.
- Apply tool with patient for selection/ preference re: areas to work on- patient to use ‘traffic light’ system to indicate preference.
- Negotiate/ provide rationale for clinicians’ preferences- achieve consensus re: focus/ goal of intervention.
- Review – see diagram.

<table>
<tr><td colspan="6">Health condition</td></tr>
<tr><td colspan="2">Body function/ structure</td><td colspan="2">Activity</td><td colspan="2">Participation</td></tr>
<tr><td colspan="3">Environmental factors</td><td colspan="3">Personal factors</td></tr>
</table>

Appendix C1: Open tool with suggested protocol (in-patient).

ICF: Clinical Reasoning Tool

<table>
<tr><td colspan="6"><i>Health condition</i></td></tr>
<tr><td colspan="2"><i>Body function/ structure
(see definition/ refer to ICF)</i></td><td colspan="2"><i>Activity
(see definition/ refer to ICF)</i></td><td colspan="2"><i>Participation
(see definition/ refer to ICF)</i></td></tr>
<tr><td colspan="3"><i>Environmental factors
(see definition/ refer to ICF)</i></td><td colspan="3"><i>Personal factors
(see definition/ refer to glossary)</i></td></tr>
<tr><td colspan="6"><i>Factors impacting on engagement/ outcome and solutions</i></td></tr>
</table>

Glossary

Health condition is the disorder or disease.

Body functions are the physiological functions of body systems (including psychological functions) e.g. Mental functions; Sensory functions and pain; Voice and speech functions

Body structures are anatomical parts of the body such as organs, limbs and their components e.g. Structures related to movement; Structures involved in voice and speech; Structures of the nervous system.

Activity is the execution of a task or action by an individual e.g. Self-care; Mobility; Communication; Learning and applying knowledge.

Participation is involvement in a life situation e.g. Community, social and civic life; Major life areas; Interpersonal interactions and relationships.

Environmental factors make up the physical, social and attitudinal environment in which people live and conduct their lives.

Please consider the following:

- Perceived/ real level of support.
- Family and friends expectations.
- Family vs. client motivation.
- Socio-economic situation.

Personal factors may include gender, race, age, other health conditions, fitness, lifestyle, habits, upbringing, coping styles, social background, education, profession, past and current experience (past life events and concurrent events), overall behaviour pattern and character style, individual psychological assets and other characteristics.

Please consider the following:

Expectations; prognosis; understanding of service/ rehab e.g.

- Expectations regarding the outcome of intervention?
- Insight: cog / denial- combination.
- What does contract of rehab involve?
- Their role and role of the MDT.
- What they’ve been told by doctor/ neurologist.
- What they understand of condition.
- What investigations have already been carried out?
- Who they’ve seen? e.g. palliative.
- Experience of service/ rehab.
- Previous experience of therapy.
- Us informing them on what we can offer.
- Their main problems what they want to achieve.
- Agreeing plan.

‘Where they’re at’ e.g.

- Where they are at: subject relevant to condition/ other information.
- How does the condition fit into your life?

Interests/ motivation e.g.

- Decision making process
- Previous function/ activity levels e.g. participation.
- Attitude to therapy- ready/ keen for sessions.
- Hobbies, leisure activities.
- Culture/ socioeconomic/ support/ religion.
- Time of day and influence on motivation.

Life history; values e.g.

- Previous experience- Best/ worse case.
- Previous roles
- Culture religions practices/ beliefs.
- Values- respect.

Appendix C2: Open tool with glossary (neurology)

Focus group planning: Clinical Reasoning.

Definitions: examples.

- The orientation and approach taken by clinicians when they collect data in order to solve problems (Sheehan, Robertson & Ormond, 2005).
- A thinking process towards enabling the clinician to take ‘wise’ action (Higgs & Jones, 2000)
- A process in which the therapist, interacting with the patient and others, helps patients structure meaning, goals and health management strategies based on clinical data, patient choices, and professional judgement and knowledge (Higgs & Jones, 2000)
- Several form of thinking to consider ‘what they perceive in the way they view their clients’, what they focus on as their central problem (and) what they ignore’.
- **Clinical reasoning** provides a framework to describe the thinking processes used when searching for cues and defining the clinical problem. **Problem solving**, in comparison, refers to the broad principles of decision- making and is a generic term used to describe decision making processes in a wide range of literature.

Different traditions/ types:

Focus:

- Psychometric approach- linear/ prescriptive
- Cognitive era- testing models of reasoning.
- Interpretive research tradition- study of social interaction between team members and/ or patients as a form of reasoning and understanding.
- Inter-subjective- understanding the life world of the patient/ viewing the problem as a rupture in ability rather than a broken body.
- Narrative reasoning- seeks to understand the unique lived experience of patients through telling stories or narratives in which some elements are expressed, some elements emphasised over others and still other elements may not find expression. Patients’ narratives may therefore provide insights for intervention and its outcomes. Hypothesis not validated by testing but by consensus between therapists and patients.

Type:

- Hypothetico-deductive model (positivist)- concerned with ‘diagnosis’ -derived from cognitive science perspective. Initial cues-hypotheses- further analysis= confirm/ negate hypothesis. Validate info from patient using reliable measurement. (inexperienced/ complex)
- Pattern recognition- forward reasoning. (experienced/ familiar).
- Fleming (1994) 2 types of therapists:
    1. Interactive nature of reasoning.
    2. Skills in technical expertise.
- Reasoning is an ongoing process in which the medical diagnosis is one part of the picture rather than the sole determinant of action.

- In a multi-disciplinary team, the issue or problem maybe quite different from one team member to the next, even though all members might readily agree on the overall goal.

Questions/ exercise: Process informed by Morgan (1996).

Reflect on current or past patients

Plan:

Aims of focus group:

1. *Explore what clinical reasoning entails?*
2. *When we engage in clinical reasoning?*
3. *How we do it?*
4. *Where do we concentrate are reasoning on?*

Aim 1

- *Selection of definitions- discuss/ prioritise.*
- *Selection of types- discuss if used/ when used/ why use.*

Aim 2: Prompt

- *Is clinical reasoning a constant ongoing process or is there a point in which we 'clinically reason'?*
- *If so when do we do it?*

Aim 3: Prompt

- *Do we consciously clinically reason or is it a tacit process -reflect Mattingly & Fleming (1994)*
- *Are there point at which this becomes more explicit?*

Aim 4: Scenario- discuss where focus reasoning.

Possible prompter questions for clinical reasoning exercise:

- Which problems considered to be the major ones?
- Long-term view for the patient.
- What they thought had been their major contribution to the patient's rehabilitation.
- Understanding of the roles and the links between team members.

Other possible prompters:

- Initial concerns.
- Final problem identification.
- Self-reported role.
- Future one year later.
- Conceptual framework.
- Narrative reasoning- seeks to understand the unique lived experience of patients through telling stories or narratives in which some elements are expressed, some elements emphasised over others and still other elements may not find expression.

Appendix C3: Focus group planning (neurology).

ICF action research project: Exploring personal factors

Case Study:

Please consider the following case study:

- List those issues that you feel are pertinent to the patient.
- Generate 3 rehabilitation goals and
- State their likely level of functioning in 6 months time.

Health condition:	Traumatic brain injury
Body function & structure impairments:	***Mental functions:*** • Higher level receptive language deficits. • High level attentional deficits e.g. 'concrete thinking' and judgement. • Mild dis-inhibition/ impulsive behaviour. ***Sensory functions and pain:*** • Persistent headaches. ***Neuromusculoskeletal & movement related functions:*** • Right-sided weakness; • Increased tone throughout (R) side proximal< distal.
Activity limitations & Participation restrictions:	***Learning & applying knowledge:*** • Learning new complex skills. • Focusing attention in distracting environments. • Solving problems & making abstract decisions. ***General tasks & demands:*** • Undertaking multiple tasks. • Handling stressful situations ***Communication:*** • Involvement in conversations & discussions with more than one person. ***Mobility:*** • Lifting & carrying objects. • Walking outside independently. • Using public transport independently. ***Domestic life:*** • Organising & paying bills. • Keeping the house clean. ***Interpersonal interactions & relationships:*** • Communicating with strangers. • Maintaining social skills in new/ complex situations • Maintaining intimate relationships. ***Major life areas:*** • Remaining in work. • Remaining economically independent. ***Community, social & civic life:*** • Re-starting leisure & recreational activities.
Environmental factors:	***Products & technology:*** • Equipment/ adaptations provided to enable independence in mobility/ self care at home. • Experiences difficulties accessing shops etc due to distance from home. • Requires equipment/ adaptations in workplace. ***Support & relationships:*** • Lives alone. • Supportive family member visits twice *per* week. • Small support network. ***Attitudes:*** • Employer reluctant to meet to discuss return to work.

	• Experienced ‘conflict’ in local shops/ public house due to behavioural outbursts e.g. swearing to self.
Issues identified:	
Rehabilitation goals:	1. 2. 3.
Functional prognosis (six months)	

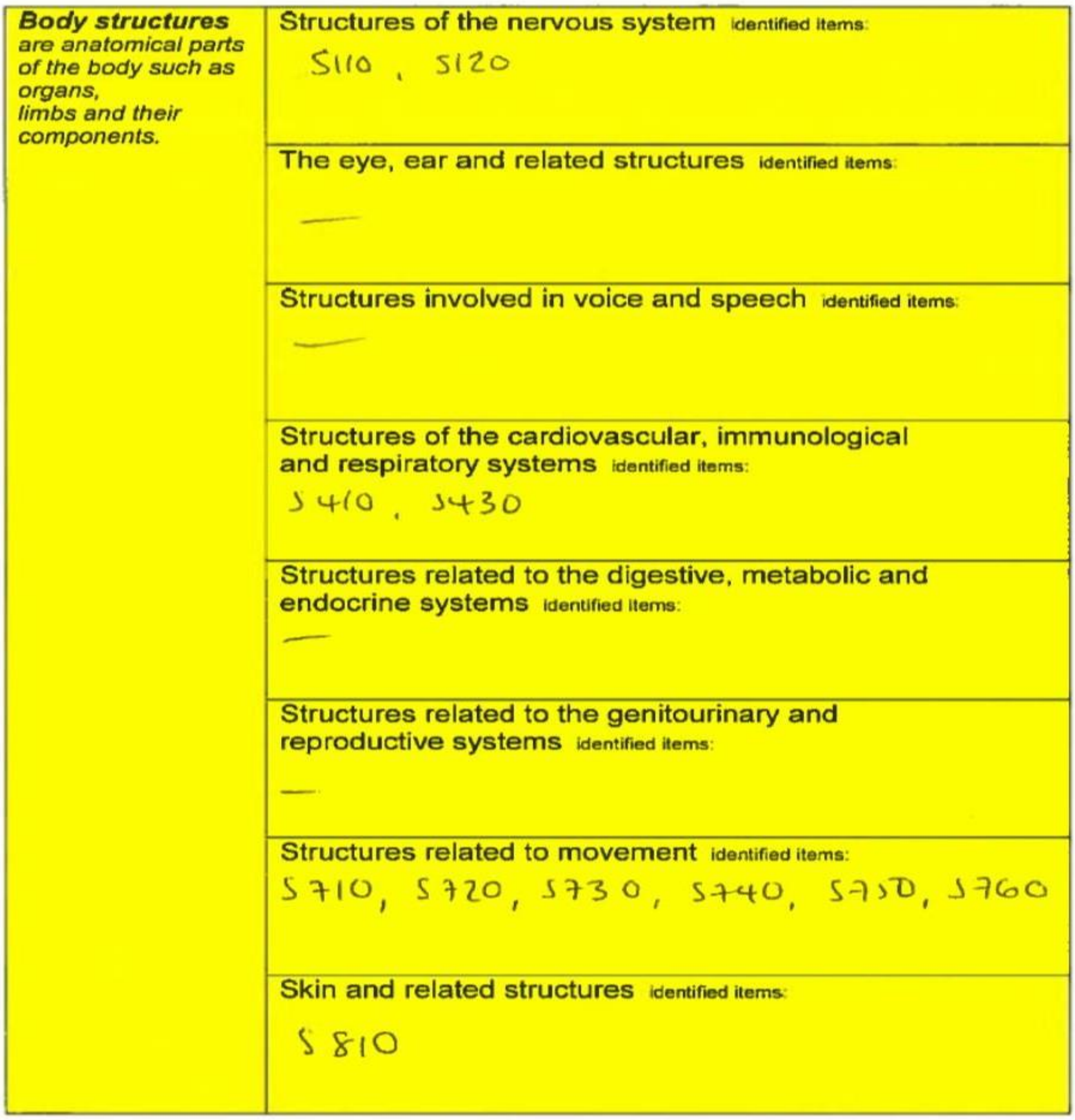
Case study 1 Personal factors	
Personal factors:	***Gender:*** Male. ***Race:*** White British ***Age:*** 24 years of age. ***Other health conditions:*** • Previous episode of depression 2 years ago. ***Fitness:*** • Played football at a ‘semi-professional’ level. ***Lifestyle:*** • Chaotic; limited structure prior to injury. • Regular cannabis user, reports ‘cut down’. ***Upbringing:*** • Brought up by mother. Limited contact with father. ***Coping Styles:*** • Tendency to ‘avoid problems and hope they go away’ ***Education:*** • Obtained 3 GCSE’s ***Profession:*** • Sub-contracted scaffolder ***Past & current experience:*** • Reports mental health services were ‘crap’. ***Overall behaviour pattern & character style:*** • Friends report ‘good laugh, supportive and loyal’ ***Individual psychological assets:*** • Reports ‘lost confidence in self’ since injury.

Case study 2 Personal factors	
Personal factors:	***Gender:*** Female. ***Race:*** Black (Carribean) ***Age:*** 58 years of age. ***Other health conditions:*** • NIDDM. ***Fitness:*** • Previously walked 30mins per day/ tended allotment. ***Lifestyle:*** • Previous to injury very structured routine • Reports teetotaller. ***Habits:*** • Attends church at least twice a week. ***Upbringing:*** • Brought up in large ‘happy’ family.

	Coping Styles: • Tendency to ‘not let problems get out of hand’. ***Education:*** • Left school at 15 years of age (no formal qualifications). Obtained degree/ teaching qualification following bringing up children ***Profession:*** • Part-time primary school teacher. ***Past & current experience:*** • Reports last time in hospital ‘to give birth, nurses were wonderful’. ***Overall behaviour pattern & character style:*** • Friends/ church goers report quiet but friendly. ***Individual psychological assets:*** • Reports ‘have brought up 3 children, will get over this’.

Appendix C4: Case studies exploring influence of personal factors with alternative descriptions.

Assessors:	
Goal:	Dressing
Health condition:	
Body functions *are the physiological functions of body systems (including psychological functions).*	Mental functions identified items: b110, b114, b122, b126 ?, b130 b140, b144, b164 ? b176
	Sensory functions and pain identified items: b210, b235, b255, b265, b280
	Voice and speech functions identified items: —
	Functions of the cardiovascular, haematological, immunological and respiratory systems identified items: b410, b415, b440, b455
	Functions of the digestive, metabolic and endocrine systems identified items: —
	Genitourinary and reproductive functions identified items: —
	Neuromusculoskeletal and movement-related functions identified items: b710, b715, b730, b735, b750, b755, b760, b765
	Functions of the skin and related structures identified items: b810, b840



Body structures *are anatomical parts of the body such as organs, limbs and their components.*	**Structures of the nervous system** identified items: S110, S120
	The eye, ear and related structures identified items: —
	Structures involved in voice and speech identified items: —
	Structures of the cardiovascular, immunological and respiratory systems identified items: S410, S430
	Structures related to the digestive, metabolic and endocrine systems identified items: —
	Structures related to the genitourinary and reproductive systems identified items: —
	Structures related to movement identified items: S710, S720, S730, S740, S750, S760
	Skin and related structures identified items: S810

Areas mapped using this process:

- Managing fatigue.
- Dressing.
- Transfers e.g. moving from a chair to a bed.
- Ascending/ descending the stairs.
- Mobility (outdoors).
- Mobility (indoors)
- Eating and drinking.
- Communication (expressing needs).
- Symptom control e.g. managing anticoagulation therapy.
- Pain.
- Dietary needs.

Appendix D1: In-patient core set mapping tool.

ICF Clinical reasoning tool trial feedback: Sept 12

Please complete the feedback form for the evaluation period of the ICF Clinical Reasoning Tool: short and long versions. The data will then be collated and fed back to the whole team to inform us of any further amendments, when the tool should be used etc. Thank you.

The patient:	Which, if any, types of patients' did you use the form for? (Please delete **all** applicable). • Simple/ uni-disciplinary. • Complex/ multi-disciplinary. • Rehabilitation. • Disability management. • Consultation & advice. • Experiencing 'social' problems. • Other: (please state)
The value:	Did using the tool ever generate: • Increased knowledge across the clinicians. Yes/No • New internal/ external referrals. Yes/No • A new focus of intervention. Yes/No • An agreed goal for the patient. Yes/No • A treatment plan tailored for the specific goal. Yes/No Did using the tool influence the teams overall clinical reasoning? Yes/No Overall, did use of the tool add value to the clinical discussion? (Please indicate on the visual analogue scale) Of no value -- Of great value. Please comment.
The use:	Which, if any, of the tools did you use? (Please delete **all** applicable). • Short version. • Long version. • Glossary. • None of the above. On average how long did it take to complete the tool? • Short version. • Long version.

	When using the tool did you use it to? (Please delete **all** applicable). • Generate a goal. • Identify the factors that require intervention to address a specific goal. • Other: (please state) What type of patient should the tool be applied to? e.g. MDT, complex, rehabilitation, all, none etc (Please state)
Any changes:	Should the personal factors section be changed to reflect the findings of the team regarding the perceived influence and susceptibility to change of different factors e.g. self efficacy? • Yes. • No. • Don't know What if any changes do you think should be made to the tool? (Please state)
Other comments:	Any other comments? (Please state).

Appendix D2: Trial feedback questionnaire (neurology Sept 2012)

Evaluation Questionnaire: Key-worker tool

Introduction:
The key-worker tool was devised as part of an action research project exploring the introduction of the International Classification of Functioning, Disability and Health (WHO, 2001) into clinical practice. This questionnaire examines the use, application, value and recommended changes (to the tool or its use). Any data collected will remain anonymous, be seen only by the lead researcher and be used only for research purposes. You are not obliged to complete the questionnaire. The reason for requesting data on respondent's grade or job title is to examine any relationship between this and the use or application. Completion of this section is optional.
Grade/ Job title:

Use:

1. Do you regularly use the tool Yes/ No
   If no, can you describe why not?

Application:

2. When applying the tool how do you use it?
   - ☐ In one session.
   - ☐ Over a number of sessions.
   - ☐ Ask all questions
   - ☐ Only ask certain questions (if so please state which ones)
   - ☐ Use it for a framework for a discussion, rather than a standardised tool.
   - ☐ Other (please state).

   Please comment on how you use it and the reasons for your choice.

3. What additional support or training (if any) would help you use the tool more effectively? (Please state).

Value:

4. How does the use of the tool influence yours or the team's clinical reasoning? Please comment.

Changes:

5. How would you change either the tool or the way it's used? Please comment.

Other:

6. Are there any other comments you would like to make regarding the tool or its use? If so, please comment.

Thank you for completing the questionnaire.

Appendix D3: Key-worker tool evaluation questionnaire (in-patient).

The key-worker tool: Background & use

Athlone 2013

Contents

Theory:
- Background.
- Rationale.
- Key-working: Roles; responsibilities; mentoring and; supervision.

Application:
- Current use: problems and benefits.
- How do I ask personal questions?
- When should I ask the questions?

Future:
- What next?
- Comments & questions

Theory

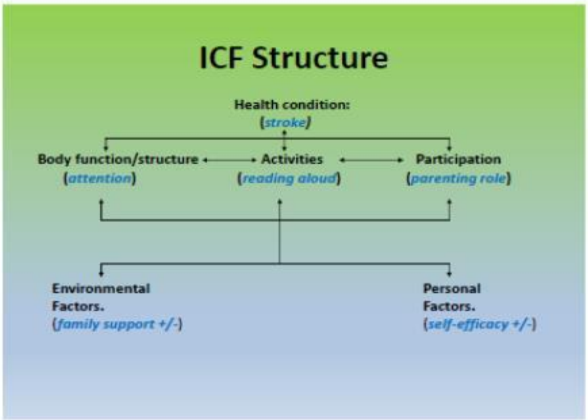
Background

- Action research project, started 09-10.
- Research group: Athlone & Norton clinicians.
- Exploring the use of the international classification of functioning, disability & health (ICF) in clinical practice.
- Focusing on MDT clinical reasoning.
- Number of versions- agreed to use as basis to a key-worker tool.

Methodological approach: Action Research (AR)

- AR is a form of participatory research, in which the researcher work explicitly *with, for* and *by* people rather than undertake research *on* them (Reason and Bradbury 2001).
- AR is an approach that involves carrying out research *in the context of its* application (Meyer, 2006).

The AR phases & cycles

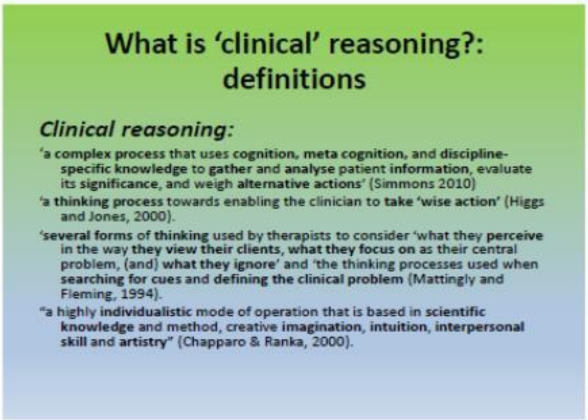


ICF Structure

Health condition:
(*stroke*)

Body function/structure (*attention*)
Activities (*reading aloud*)
Participation (*parenting role*)

Environmental Factors. (*family support +/-*)
Personal Factors. (*self-efficacy +/-*)



What is 'clinical' reasoning?: definitions

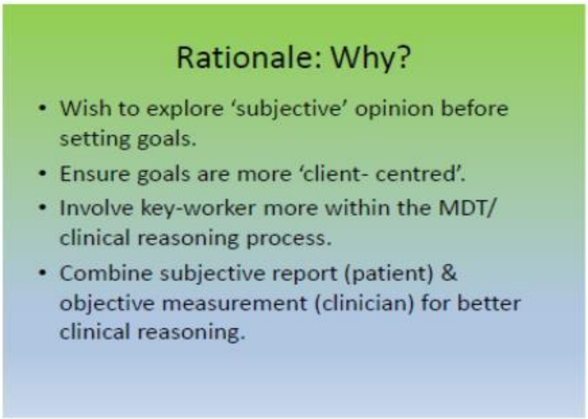
Clinical reasoning:

'**a complex process** that uses **cognition, meta cognition,** and **discipline-specific knowledge** to **gather** and **analyse** patient **information**, evaluate its **significance**, and weigh **alternative actions**' (Simmons 2010)

'**a thinking process** towards enabling the clinician to **take 'wise action'** (Higgs and Jones, 2000).

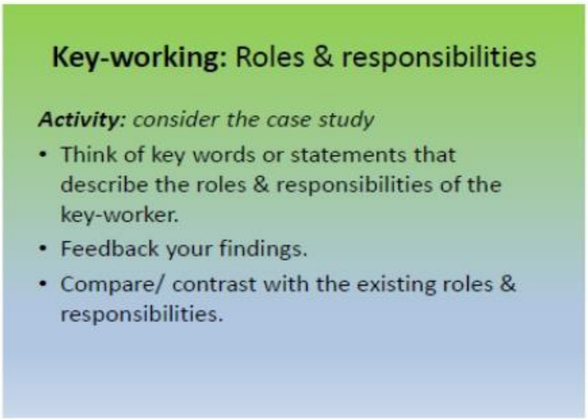
'**several forms of thinking** used by therapists to consider 'what they **perceive** in the way **they view their clients, what they focus on** as their central problem, (and) **what they ignore**' and 'the thinking processes used when **searching for cues** and **defining the clinical problem** (Mattingly and Fleming, 1994).

"a highly **individualistic** mode of operation that is based in **scientific knowledge** and method, **creative imagination, intuition, interpersonal skill** and **artistry**" (Chapparo & Ranka, 2000).



Rationale: Why?

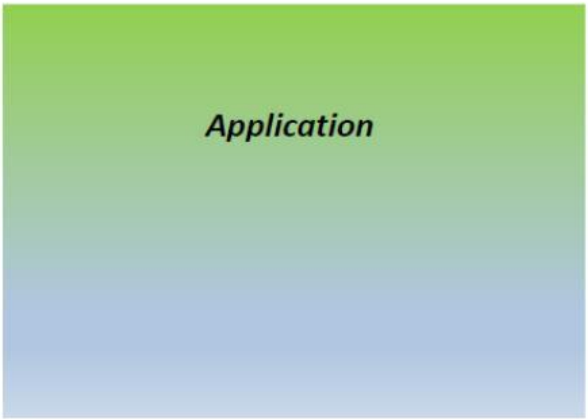
- Wish to explore 'subjective' opinion before setting goals.
- Ensure goals are more 'client- centred'.
- Involve key-worker more within the MDT/ clinical reasoning process.
- Combine subjective report (patient) & objective measurement (clinician) for better clinical reasoning.



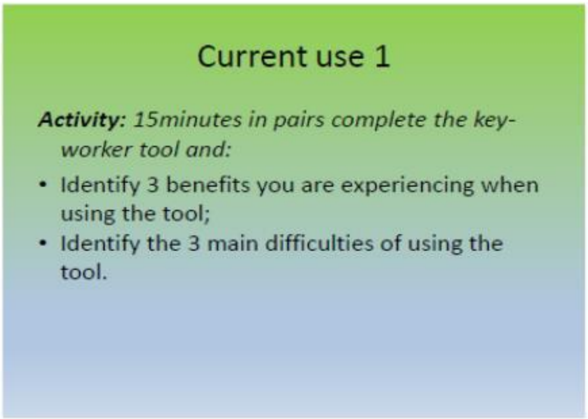
Key-working: Roles & responsibilities

Activity: *consider the case study*

- Think of key words or statements that describe the roles & responsibilities of the key-worker.
- Feedback your findings.
- Compare/ contrast with the existing roles & responsibilities.



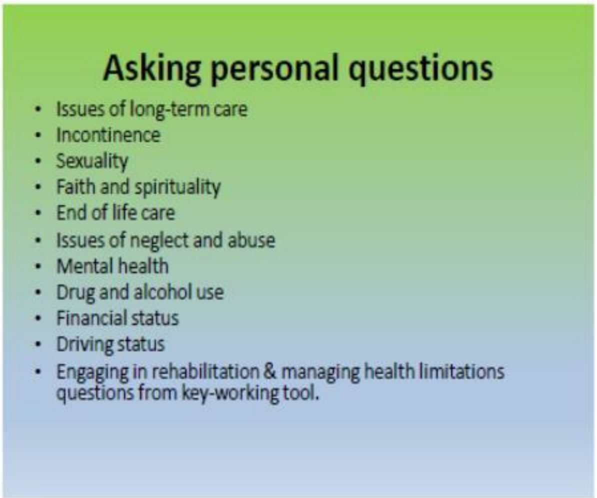
Application



Current use 1

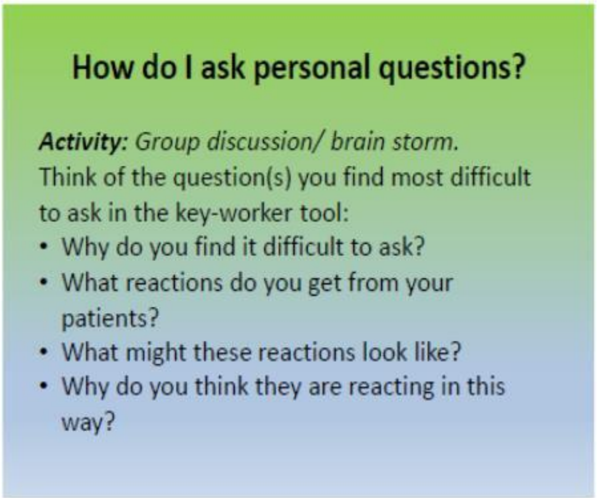
Activity: *15minutes in pairs complete the key-worker tool and:*

- Identify 3 benefits you are experiencing when using the tool;
- Identify the 3 main difficulties of using the tool.



Asking personal questions

- Issues of long-term care
- Incontinence
- Sexuality
- Faith and spirituality
- End of life care
- Issues of neglect and abuse
- Mental health
- Drug and alcohol use
- Financial status
- Driving status
- Engaging in rehabilitation & managing health limitations questions from key-working tool.

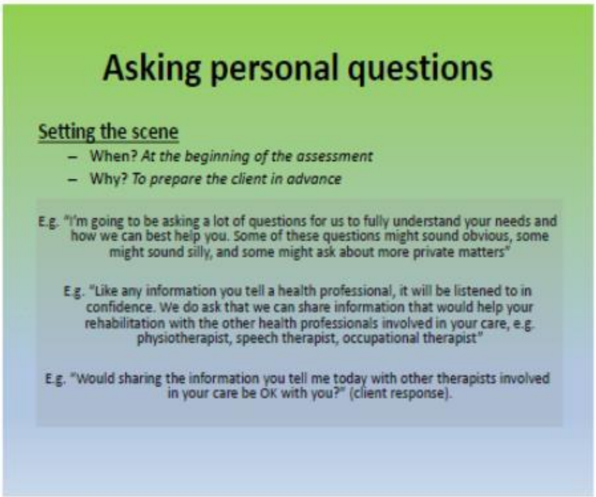


How do I ask personal questions?

Activity: *Group discussion/ brain storm.*

Think of the question(s) you find most difficult to ask in the key-worker tool:

- Why do you find it difficult to ask?
- What reactions do you get from your patients?
- What might these reactions look like?
- Why do you think they are reacting in this way?



Asking personal questions

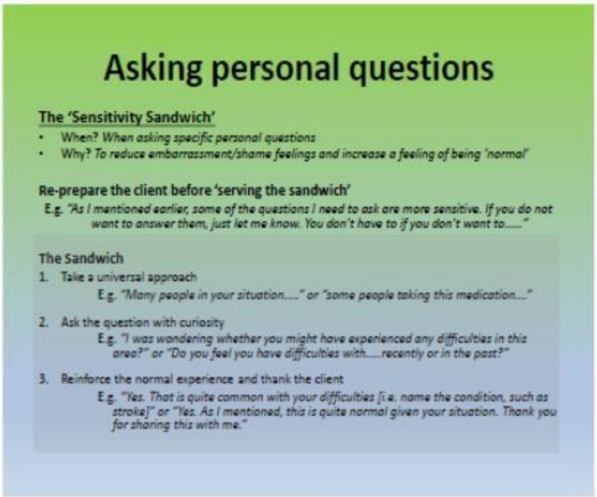
Setting the scene

- When? *At the beginning of the assessment*
- Why? *To prepare the client in advance*

E.g. "I'm going to be asking a lot of questions for us to fully understand your needs and how we can best help you. Some of these questions might sound obvious, some might sound silly, and some might ask about more private matters"

E.g. "Like any information you tell a health professional, it will be listened to in confidence. We do ask that we can share information that would help your rehabilitation with the other health professionals involved in your care, e.g. physiotherapist, speech therapist, occupational therapist"

E.g. "Would sharing the information you tell me today with other therapists involved in your care be OK with you?" (client response).



Asking personal questions

The 'Sensitivity Sandwich'

- When? *When asking specific personal questions*
- Why? *To reduce embarrassment/shame feelings and increase a feeling of being 'normal'*

Re-prepare the client before 'serving the sandwich'

E.g. *"As I mentioned earlier, some of the questions I need to ask are more sensitive. If you do not want to answer them, just let me know. You don't have to if you don't want to......"*

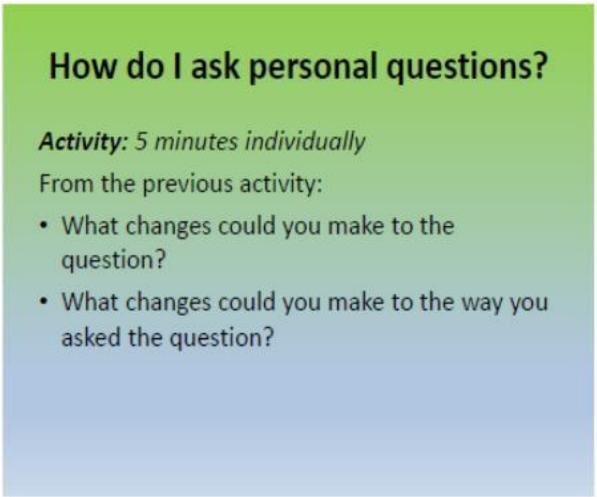
The Sandwich

1. Take a universal approach
   E.g. *"Many people in your situation....." or "some people taking this medication...."*
2. Ask the question with curiosity
   E.g. *"I was wondering whether you might have experienced any difficulties in this area?" or "Do you feel you have difficulties with.....recently or in the past?"*
3. Reinforce the normal experience and thank the client
   E.g. *"Yes. That is quite common with your difficulties [i.e. name the condition, such as stroke]" or "Yes. As I mentioned, this is quite normal given your situation. Thank you for sharing this with me."*

Asking personal questions

Important non-verbal communication

- Non-verbal communication accounts for 70% of the interaction
- Will take place within 3 seconds of meeting someone for the first time
- Can significantly impact of the success of the interaction
- The 'social brain' will analyse
  - Eye contact
  - Gestures
  - Posture and body language
  - Facial expressions
  - Use of space and environment
  - Physical contact
  - Appearance
  - The rhythm and tone of speech (i.e. prosody)
- http://changingminds.org/index.htm



How do I ask personal questions?

Activity: *5 minutes individually*

From the previous activity:

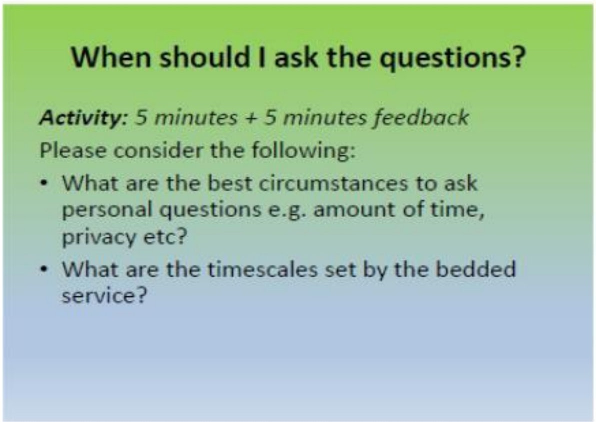
- What changes could you make to the question?
- What changes could you make to the way you asked the question?

How do I ask personal questions?

Activity: *5 minutes + 5 minutes feedback*

In pairs role play your new question & approach.

- How did it feel to be asking the question?
- How did it feel to be asked the question?
- What (if any) changes would you make?

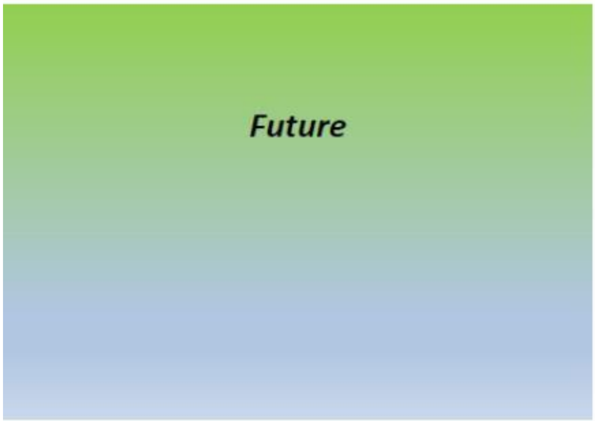


When should I ask the questions?

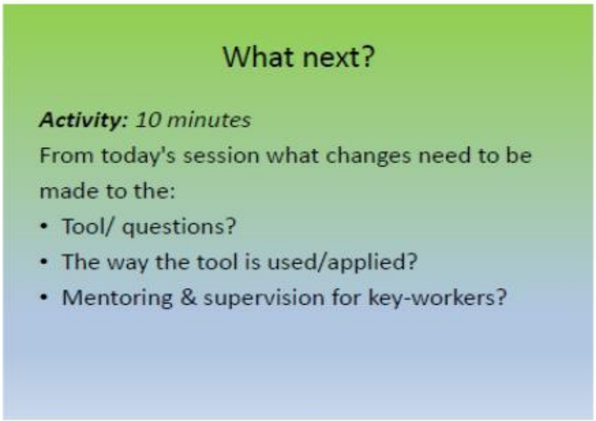
Activity: *5 minutes + 5 minutes feedback*

Please consider the following:

- What are the best circumstances to ask personal questions e.g. amount of time, privacy etc?
- What are the timescales set by the bedded service?



Future



What next?

Activity: *10 minutes*

From today's session what changes need to be made to the:

- Tool/ questions?
- The way the tool is used/applied?
- Mentoring & supervision for key-workers?

Questions & comments

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Appendix D4: Key-worker tool training presentation.

ICF Multi-disciplinary Clinical Reasoning Tool

Chapter 1: Mental functions

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems sleeping?	Yes/ No	
Do you experience any problems with your concentration?	Yes/ No	
Do you experience any problems with your memory?	Yes/ No	
Do you experience any problems with your mood?	Yes/ No	
Do you experience any problems understanding people e.g. what they say?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 2: Sensory functions and pain

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems feeling things e.g. touch?	Yes/ No	
Do you experience any problems with your sight?	Yes/ No	
Do you experience any problems with your hearing?	Yes/ No	
Do you experience any problems tasting things e.g. food?	Yes/ No	
Do you experience any problems with your sense of smell?	Yes/ No	
Do you experience any pain?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 3: Voice and speech functions

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Have you experienced any problems with your voice e.g. volume?	Yes/ No	
Have you experienced any problems with your speech e.g. speed and rhythm?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 4: Functions of the cardiovascular, haematological, immunological and respiratory systems.

Subjective (key-worker interviewed/patient reported)

Question	**Answer**	**Significance**
Are you aware of any changes with your breathing?	Yes/ No	
Are you aware of any changes with your blood pressure?	Yes/ No	
Are you aware of any changes with your heart?	Yes/ No	
Are you susceptible to infections e.g. chest?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 5: Functions of the digestive, metabolic and endocrine systems

Subjective (key-worker interviewed/patient reported)

Question	**Answer**	**Significance**
Are you aware of any changes with your digestive system?	Yes/ No	
Are you aware of any changes with your bowel function?	Yes/ No	
Are you aware of any changes with your weight?	Yes/ No	
Do you have diabetes?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 6: Genitourinary and reproductive functions

Subjective (key-worker interviewed/patient reported)

Question	**Answer**	**Significance**
Are you aware of any changes with your bladder function?	Yes/ No	
Have you any concerns regarding your sexual health or functioning?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 7 Neuromusculoskeletal and movement-related functions

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Are you aware of any changes with your joints e.g. stiffness?	Yes/ No	
Are you aware of any changes with your muscle strength?	Yes/ No	
Are you aware of any changes with your walking?	Yes/ No	
Do you ever lose control over your movements?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 8 Functions of the skin and related structures

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Are you aware of any changes with your skin, nails or hair?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Body Structures: Chapters 1-8

Subjective (key-worker interviewed/patient reported)

Question	Answer
Are there any other physical changes or conditions that you are experiencing?	Yes/ No
If yes, please describe them (description) 1. 2. 3.	
How significant are they? 1. 2. 3.	Significance

Activity & Participation:

Chapter 1: Learning and applying knowledge

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems learning new skills or planning how to do things?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 2: General Tasks and demands

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems managing stress?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 3: Communication

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems communicating with others e.g. writing or speaking?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 4: Mobility

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems moving?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 5: Self Care

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems managing your personal needs?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 6: Domestic life

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems managing your domestic needs?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 8: Major life areas

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems managing your money e.g. shopping, or banking?	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Chapter 9: Community, social and civic life.

Subjective (key-worker interviewed/patient reported)

Question	Answer	Significance
Do you experience any problems participating in community activities e.g. leisure	Yes/ No	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Environmental factors: Physical, social and attitudinal.

Subjective (key-worker interviewed/patient reported)

Question	**Effect**	**Significance**
Is there anything at home that you think makes you more or less able to manage e.g. 1. Physical barriers/ equipment. If so, what? 2. Support/ isolation from others. If so, what? 3. Attitude from others. If so, what	Yes/ No positive/ negative positive/ negative positive/ negative	
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Personal Factors: Engaging in rehabilitation.

Subjective (key-worker interviewed/patient reported)

Question		**Answer**
How do you think you will manage with engaging in in-patient rehabilitation?		Well/ not so well
Do you have any immediate concerns? If so, what are they?		
What aspects of your personality do you think will either help or limit you as an in-patient e.g. liking my own routine, wanting privacy etc?	Help	Limit
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Personal Factors: Managing limitations to your health.

Subjective (key-worker interviewed/patient reported)

Question	**Answer**	
What aspects of your personality will either help or limit you managing any limitations to your health e.g. feeling in control, previous experience of ill health etc?	Help	Limit
Notes: include significant information e.g. patients understanding of problem, reason for not asking question etc.		

Appendix D5: Final Tool in-patient.

Body functions	Level of significance 1-3	Intervention Y/N	**Comment** e.g. type; site of deficit; requires further assessment etc.
Chapter 1 Psychological functions			
Consciousness functions			
Orientation functions			
Intellectual functions			
Global psychological functions			
Temperament and personality functions			
Energy and drive functions (includes fatigue e.g. physical component)			
Attention functions			
Memory functions			
Psychomotor function			
Emotional functions			
Perceptual functions			
Thought functions			
Higher-level cognitive functions			
Mental functions of language			
Reception of language			
Reception of spoken language			
Reception of written language			
Expression of language			
Expression of spoken language			
Expression of written language			
Calculation functions			
Mental function of sequencing complex movements			
Experience of self and time functions			
Other?			
Chapter 2 Sensory functions and pain			
Seeing functions			
Functions of structures adjoining the eye			
Vestibular functions			
Proprioceptive function			
Touch function			
Sensory functions related to temperature and other stimuli			
Sensation of pain			
Other?			
Chapter 3 Voice and speech functions			
Voice functions			
Articulation functions			
Fluency and rhythm of speech functions			
Other?			
Chapter 4 Functions of the cardiovascular,			

haematological, immunological and respiratory systems			
Heart functions			
Blood vessel functions			
Blood pressure functions			
Immunological system functions			
Respiration functions			
Respiratory muscle functions			
Exercise tolerance functions			
Other?			
Chapter 5 Functions of the digestive, metabolic and endocrine systems			
Ingestion functions			
Swallowing			
Defecation functions			
Other?			
Chapter 6 Genitourinary and reproductive functions			
Urination functions			
Sexual functions			
Other?			
Chapter 7 Neuromusculoskeletal and movement-related functions			
Mobility of joint functions			
Stability of joint functions			
Muscle power functions			
Muscle tone functions			
Muscle endurance functions			
Motor reflex functions			
Involuntary movement reaction functions			
Control of voluntary movement functions			
Gait pattern functions			
Sensations related to muscle & movement functions			
Other?			
Body Structure			
Chapter 1 Structures of the nervous system			
Structure of brain			
Structure spinal cord and related.			
Structure of the nervous system, other specified.			
Other?			
Chapter 4 Structures of the cardiovascular, immunological and respiratory systems			
Structure of cardiovascular system			
Respiratory system			

Other?			
Chapter 6 Structures related to the genitourinary and reproductive systems			
Structure of the urinary system			
Other?			
Chapter 7 Structures related to movement			
Head & Neck			
Structure of shoulder region			
Structure of upper extremity			
Structure of lower extremity			
Structure of the trunk			
Other?			

Activities & Participation	**Level of significance 1-3**	**Intervention Y/N**	**Comment** e.g. performance deficit; requires further assessment etc.
Chapter 1 Learning and applying knowledge			
Listening			
Acquiring skills			
Focusing attention			
Reading			
Writing			
Calculating			
Solving problems- simple			
Solving problems- complex			
Making decisions -simple			
Making decisions -complex			
Other?			
Chapter 2 General tasks and demands			
Undertaking a single task			
Undertaking multiple tasks			
Carrying out daily routine			
Handling stress and other psychological demands			
Other?			
Chapter 3 Communication			
Communicating with – receiving – spoken messages			
Communicating with – receiving – non-verbal messages			
Communicating with – receiving – written messages			
Speaking			
Producing non-verbal messages			
Writing messages			
Conversation			
Discussion			

Using communication devices and techniques			
Other?			
Chapter 4 Mobility			
Changing basic body position e.g. changing position in one place e.g. not moving to another surface			
Maintaining a body position (please note environment e.g. supportive seating, unsupported etc)			
Transferring oneself e.g. Moving from one surface (place) to another.			
Lifting and carrying objects			
Fine hand use			
Hand and arm use			
Walking			
Moving around			
Moving around in different locations			
Moving around using equipment			
Using transportation			
Driving			
Other?			
Chapter 5 Self-care			
Washing oneself			
Caring for body parts			
Toileting			
Dressing			
Eating			
Drinking			
Sleeping			
Looking after one’s health			
Other?			
Chapter 6 Domestic life			
Acquisition of goods and services			
Preparing meals			
Doing housework			
Maintaining the home			
Other?			
Chapter 7 Interpersonal interactions and relationships			
Basic interpersonal interactions			
Complex interpersonal interactions			
Formal relationships			
Informal social relationships			
Family relationships			
Intimate relationships			
Other?			
Chapter 8 Major life areas			
Vocational training			

Acquiring, keeping and terminating a job			
Remunerative employment			
Non-remunerative employment			
Basic economic transactions			
Economic self-sufficiency			
Other?			
Chapter 9 Community, social and civic life			
Community life			
Recreation and leisure			
Religion & Spirituality			
Other?			

Environmental factors		
Physical:	Barriers:	**Facilitators** e.g. assistive products in place
• Home: • Work: • Community access: • Local area: • Education: • Other:		

Social & attitudinal environment: • Friends: • Family: • Care: • Community: • Work colleagues: • Education: • Health Professionals:	**Relationship/ level of support:**
• **Housing:** • **Social Services:** • **Financial:** • **Legal status:**	**Level of perceived need/ support:**

Personal factors		
Area	**Positively influences**	**Negatively influences**
Gender		
Race		
Age		

Other health conditions		
Fitness		
Lifestyle		
Habits		
Upbringing		
Coping styles		
Social background		
Education		
Profession		
Past and current experience (past life events and concurrent events)		
Overall behaviour pattern and character style		
Individual psychological assets		
Other characteristics. (Please state)		

Appendix D6: Final Long Tool neurology

Complex Clinical Reasoning Tool: Short Version.

Goal:

Body Function components:	***Specific component:***
Psychological functions.	
Sensory functions and pain.	
Voice and speech functions.	
Functions of the cardiovascular, haematological, immunological and respiratory systems.	
Functions of the digestive, metabolic and endocrine systems.	
Genitourinary and reproductive functions.	
Neuromusculoskeletal and movement-related functions.	
Body Structure components:	
Structures of the nervous system	
Structures of the cardiovascular, immunological and respiratory systems	
Structures related to the genitourinary and reproductive systems	
Structures related to movement	
Activity & Participation components:	***Specific component:***
Learning and applying knowledge	
General tasks and demands	
Communication	
Mobility	
Self-care	
Domestic life	
Interpersonal interactions and relationships.	
Major life areas	
Community, social and civic life.	

Environmental components:	***Specific component:***
Physical:	
Social & attitudinal environment:	
Other:	
Personal components:	***Specific component:***
Gender	
Race	
Age	

Other health conditions.	
Fitness	
Lifestyle	
Habits	
Upbringing	
Social background	
Education	
Profession	
Past and current experience	
Overall behaviour pattern and character style	
Individual psychological assets	
Mood	
Motivation	
Self-efficacy	
Attitude towards health professionals	
Beliefs	
Readiness	
Acceptance	
Other characteristics.	

Appendix D7: Final Short tool neurology

Appendix E

Follow-up interview topic guide.

Introduction

Thank you for giving permission for me to interview you. The interview is designed to explore the experience of participating in the action research project. Specifically, the interview will investigate the processes and outcomes of introducing the International Classification of Functioning, Disability and Health (ICF) into clinical practice.

I will be recording this interview to ensure I collect all the relevant information. Following this I will transcribe the data, at which point I will sent it to you for your comments. Can I assure you that you will remain anonymous and no records of the interview will be kept with your name on them? The general results of the interviews will be used to capture the participants' experience and opinions within the research findings, although details of the interviewees will not be released.

Preliminary

- We started this project in January, 2010 and there have been many changes (including staff) during that time. Can you confirm when you started in the neurology team/ bedded service and joined our project?
- Consent form.
- Aims & objectives of study.
- Examples of tools devised.

Main questions

In this first section I am interested in your experience of the action research process and views on those factors that acted as either facilitators or barriers to carrying out change in clinical practice.

Q1. How would you describe the experience of being involved in the action research project?

*Prompt: **emotional** response e.g. frustrating/empowering; practical e.g. benefits/ disadvantage; new **knowledge** about the ICF/ action research/ how to **influence practice**/ my own practice/ the team **etc**.*
Examples?

Q2. What do you think helped or hindered the process of attempting to change clinical practice?

*Prompt: **Context of practice** (personal; team; organisation);*
***Nature of change attempted**; (complexity, consensus, need/importance)*
***Approach adopted** (the research method/ management of the research)*
Other
Examples?

In this next section I am interested in your opinion of the ICF and its use in clinical practice.

Q3. How would you describe the ICF?

*Prompt: **Nature of the ICF**-measurement tool/ universal language/ categorisation tool/ other. **Utility of the ICF**- size/ ease of use; conceptual clarity; language/terminology; universality/ clear directions how to use etc*

Q4. How do you use the ICF in clinical practice?

Prompt: universal language/information sharing; categorisation; measurement; clinical reasoning etc.

Q5. What key factors (about the ICF) helped or hindered its introduction?

Prompt: size/ ***ease of use****; conceptual* ***clarity****; language/terminology;* ***universality****/ clear directions how to use etc*

In the last part I am interested in your opinion on the outcome of the research.

Q6. What are your thoughts about the tools developed through the research project?

Prompt: extent to which it formally/ informally influences practice/ version of the tool (short, long, key-worker etc); likes; dislikes; utility.

Close

Reiterate send transcription of interviews for comment. Any further comments?
Thank you and close.

Appendix E1: Follow up interview topic guide.

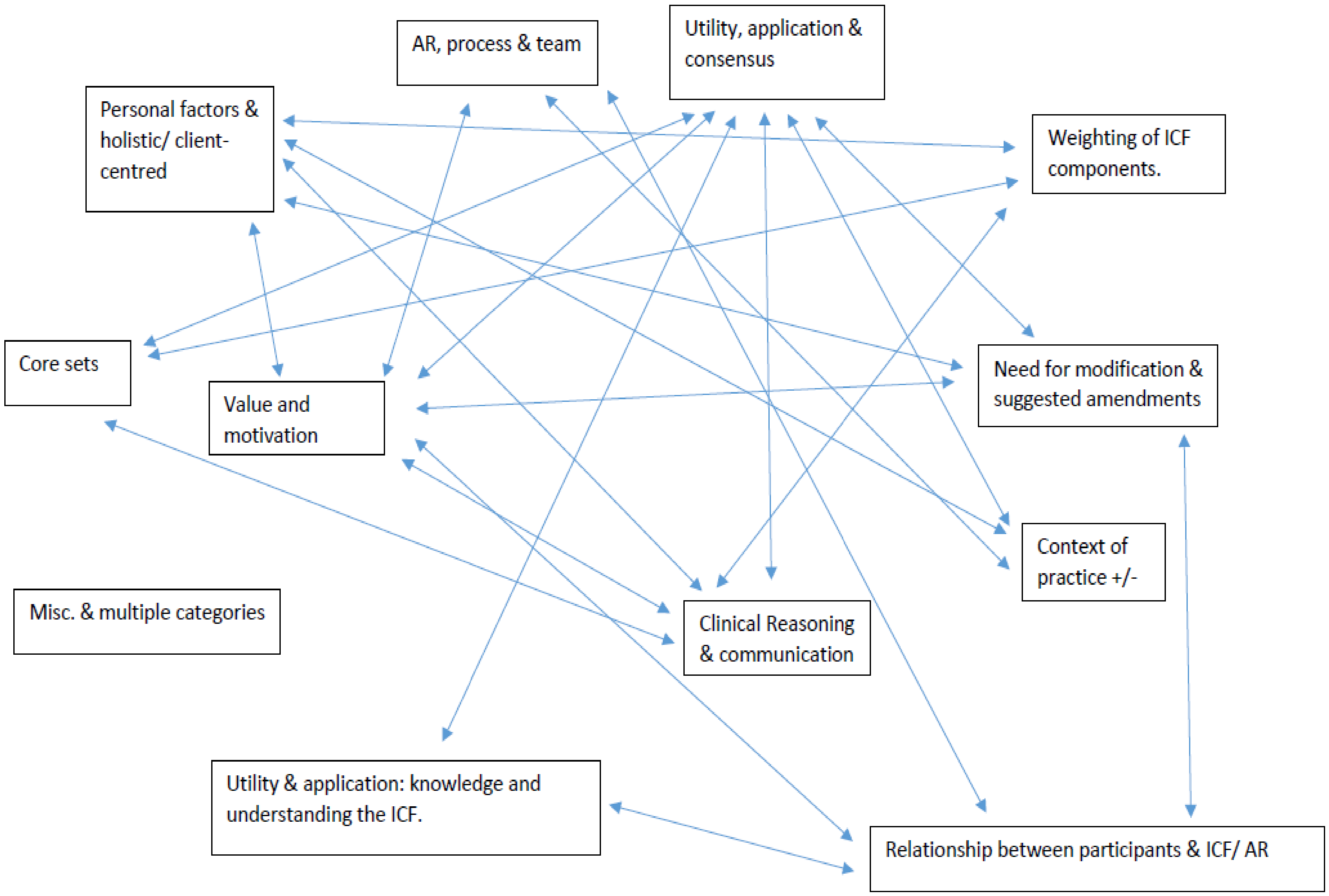
codes	Follow up interview neurology	notes
Communication and reasoning. Value and understanding of ICF Context of practice. Utility, value and application. Team & ? consensus. AR impact on participants &? Team. Innate motivation to explore change. Context of practice on change.	Thank you very much for letting me interview you. We started this project in January 2010. There's been a lot of changes, including staff in that time. Can you remind me, can you confirm when you started in the neuro team and started in the project? Um yes. I started in the neuro team prior to that and I think I joined the project when it started. And so, we'll get straight onto the questions. In the first section I'm interested in your experience of the action research process and those factors that acted as facilitators or barriers to changing practice in clinical practice… I'll elaborate if I need to if you could just express how you feel… How would you describe the experience of being involved in the AR project? Both positive and negative aspects… Um that's quite open isn't it? It doesn't seem to be as demanding as I thought it might. Something that has been really positive to me I've developed a much better understanding of the ICF where it's relevant and how it can be a useful way of communicating information between therapists and colleagues. When I first started in the neuro team I noticed we were getting reports from therapy teams that were ICF based that didn't seem logical to me but now make more sense why they were formulated that way and now I have a better understanding of what the ICF is, I don't know. Personally I don't know if I used… as we've gone along I've got involved in discussion and got used to adapting the tool and even how do we make it more relevant and neuro specific or specific to the kind of work we do it become clearer how relevant it is and now it got to the point where I think it's quite a reassuring thing to have when I'm really stuck on occasions. It been a quite a… not too demanding interesting process when every few months we've had interesting discussions had a go and use it and eventually come up with something quite useful Thank you anything else about being involved in the action research project as such? It hasn't really felt like a research project, it's been like I don't know just like a subliminal part of our work really. I haven't felt like we taken a certain amount of time out or it's been invasive no it's been quite easy. Thank you. What do you think helped or hindered the attempt to change clinical practice? I think what helped was staff being quite interested and wanting to give as good a service as possible to patients and generally interested and proactive. The staff obviously changed quite a lot but people always seemed to be interested and the um hindered a guess pretty much the fact that we don't have time to actually facilitate and discuss and didn't have time to trial versions of the tool or and so pressure I think that was a limiting factor is that what you asked me? Yes that's what I asked you around the context of the practice or nature of the change or the approach we adopted. I think you've touched on the context (Oh yea) I suppose the other thing is the action research and the approach of the research Yea I see what you mean. I think for me and other people the detail of the ICF was unfamiliar the concept was OK but the depth was quite challenging in itself and the style of action research its open ended almost it wasn't invasive but it was you didn't make a determined effort in a time frame an try and change your practice I	? implicit knowledge generation. Process of implementation and increased understanding. AR process influence on team e.g. discussions Integration of research into practice??? +ve aspect of AR? Clinicians taking initiative to effect change- desire? Think about influence of context on participation, progress, role of LR etc. Regular theme complexity of ICF

Utility and application and ICF Relationship of participants to AR. Utility, value and application and ICF Relationship of participants to AR. Relationship of participants to AR. Value & client-centred. Utility, application & value. Personal factors & client-centred. Weighting of components. ICF and context. Utility, application and value.	don't know it's a bit more gradual I don't know it could have been a downside. I'm interested I'm interested in all of it but whether it could have been a barrier or facilitator. I use it when I think I need to and I don't think I would have done that if we'd tried it for a few months and put it in a draw it would have been forgotten about it's been quite a gradual process. It really familiar to me and I know that it's there… I recommend it. For me I think that's been a positive thing it's been quite slow its more likely to stick also a number of people have been involved with it over such a long period of time if it had been a short burst it would have only affected a small group of people. It is quite a personal thing Because I haven't been under any pressure I've found it enjoyable other research I've found more of a chore. Thank you. The next question is around you opinion of the ICF and its use in practice. So how would you describe the ICF? Um I would describe it a kind of a framework for trying to identify every possible factor as it could be effecting somebody you're wanting to work with so I would think of it as having… breaking things down in a holistic way so the body function stuff the… physical if things are intact or not and then whether they can participate or not and then looking at the wider… social… context. It is very difficult to explain I don't think I could explain it to another clinician without using the tool but I have an implicit knowledge of it now almost as if it's a useful guideline for breaking things down helping you more or less like a checklist to make sure you've… and if you not quite sure you've got a deeper level to identify what might be wrong or what might need addressing in some way I do think it's a heavily detailed with the body functions list for functioning and a little bit light on the social context component like the personal components. I can understand why it's used in reports that are impairment based but I don't know if there's enough detail in the social context for working in the community but it's worth having a good look at if you're struggling with someone… How do you use it in clinical practice? I don't use it often. I see it when we get reports for other clinicians and referrals but I would use it in a way if I'm trying to set goals or work out what my aims are with patient and I feel a little bit lost or confused about why things aren't progressing or where to go with someone I use it either on my own or with other members of the team to try and come up with something that we can all agree would be a way forward like a problem solving goal setting kind of tool What key factors about the ICF helped or hindered its introduction? Um I think one thing that's a challenge is there's so much information it so detailed, there's so many levels or impairment information that it almost renders itself, to me not useable because you don't know where to begin because there's so much information um because we um part of our action research we tried to bring out the neuro specific stuff that then brought it into a much more of a manageable quantity of information it's still far too detailed it's just reams and reams of paper I think that's the biggest kind of obstacle with it. But I can see a purpose in that I can see that it's there in the background if you need to refer to it but I think that the concise version enough headings or components to look back and know that you can refer back to a	Or inexperience of LR. Specific use possibly reflect real utility AR approach iterative/ gradual- see above As above +/- aspect of AR/ process. Implicit vs explicit knowledge and use? Limitation of the ICF? Reality of practice used when needed/ contrast with in-pt. Sole use? Effect on MDT clinical reasoning??? Complexity of the ICF. Complexity and need to adapt to reflect practice. Different versions for different needs.

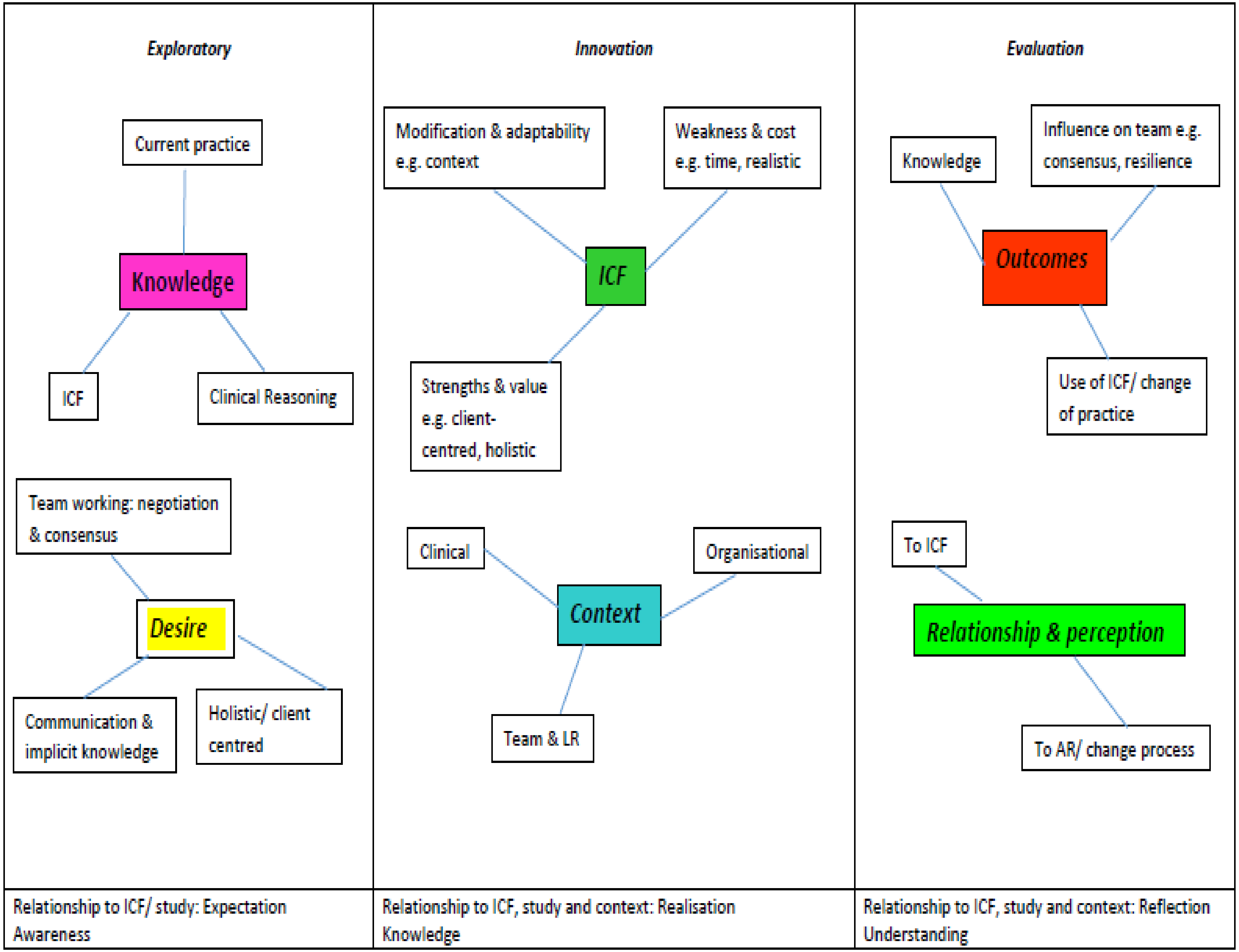
Utility, application and value.	more detailed version could actually be the advantage of it because you don’t have to say you have to use it in a full interview context you don’t have to use the full or the short version you can refer it’s flexible I don’t think I could have contemplated using it without a more concise version.	Utility in current form NB even with core sets too long?
Utility, application and value- need to amend	Thank you and the last question and this is with the tool (tools available for consideration). What are your thoughts about the tools developed through this research? Um I think we probably started off with such a vast amount of information and the initial challenge was trying to convince it was something useful.	Would the current ICF turn off clinicians at beginning.
Utility, application and value.	Having an opportunity to go through some of the more detailed information is how I’ve come to this point of having internalised lots of it if we were to jump straight to the version we have now, the short version I don’t think it would be as meaningful or make as much sense I don’t think it like have… I would be able to draw on it. I probably do that without thinking about it now.	Relationship between process and outcome?
	Um I think it’s been a process it’s also given us an insight and understanding about other disciplines what the speech therapist really wanted to convey and why I couldn’t see the relevance of that depth of information that they really did I think it’s that process help we’ve kind of more of a respect for the other disciplines or better understanding	Strengthen change? Through increased knowledge of MDT.
Utility, application and value initial impression.	almost but generally we all agreed that it wasn’t going to be possible to have it as a working document with the amount of detail everyone would have liked to have kept for their own discipline perhaps and it was a bit of a process getting to the point when we agreed we could whittle some of it down and take some of it out but have it in the background to draw upon.	AR/ modification process.
AR and process and application.	Um just looking back at the original one I don’t remember coming up with this It’s been a long time… post the focus group when we identified what we wanted… Yea it’s been a long process to get to the point of realising that it might be more useful to use as a kind of goal setting tool rather than like an assessment tool.	
AR, process and team.	Well I feel quite happy with that it makes sense I think because… but I did think err… I think it takes a little bit of time to first assess someone a get a bit of an idea what their need might be or… I don’t know… when you come to think what their goals are and try an work out how your intervention is going to be shaped I don’t know what to say apart from I think it’s all sunk in so it’s impacted on the way I reason the ways I think about someone clinically	Team and consensus building?
Utility, application and consensus.	so I obviously I have to work in a kind of holistic approach but it’s, there’s much more layers I’ve got a deeper understanding of just how diverse those issues can be and how individual it is ignore that but you don’t really know what that means if written down I don’t know it’s a way of kind of saying this could have practically an infinite number of issues going on and we haven’t even started the list of all the contextual stuff that really impacts what we do.	On own or part of a MDT clinical reasoning processs??
Utility, application and consensus.	I think the whole process of going through the different versions of the tool result in kind of having a checklist of the ICF that has sort of become something that I kind of have an understanding you know So is it fair to say the process of developing the tool has influenced you as much as the tool itself? Yea that’s what I’m trying to say yea… I think if I was coming brand new and looking at this (points to tool) kind of summarised version of this tool I think I would find it useful but I’d have a very different depth of understanding of the	Process and outcomes/ application and implicit knowledge.

Application and value. Holistic and client-centred. Application and knowledge.	ICF than I do. But I do think that even in the short version with the reference pages to it I still think we have a huge amount of information about the ICF that we didn't have before that is useful Noise- people are trying to get into this room… but are there any other comments or anything you'd like the opportunity… I can't think of anything in particular Well thank you very much… You're welcome	

Appendix E2: Coded follow up interview.



Appendix E3: Thematic map September 2014



Appendix E4: Thematic map December 14.

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Engaging with clinicians to implement and evaluate the ICF in neurorehabilitation practice

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Abstract.
INTRODUCTION: Although deemed a globally accepted framework, there remains scare evidence on the process and outcome of implementing the International Classification of Functioning, Disability and Health (ICF) within neurorehabilitation.
OBJECTIVES: This review briefly explores the existing, broader literature and then reports on two action research projects, undertaken in England, specifically within stroke and neurorehabilitation. Working with participants, including clinicians from in-patient and community settings, there are now 35 different ways identified for the use of the ICF.
CONCLUSION: The outcome of the first project highlights that using the ICF enhances communication within and beyond the acute stroke service, fosters holistic thinking and clarifies team roles. To adopt it into clinical practice, the ICF must be adapted to meet local service needs. The use of action research has facilitated the knowledge translation process which has enabled the ICF to become a clinical reality in neurorehabilitation, with clinicians identifying a range of potential uses.

Keywords: International Classification of Functioning, Disability and Health, implementation, neurorehabilitation

1. Introduction

The International Classification of Functioning, Disability and Health (ICF: World Health Organisation [WHO], 2001) has been endorsed for use by multidisciplinary teams to aid communication within stroke care (Intercollegiate Stroke Working Party [ISWP], 2012) although endorsement does not necessarily guarantee its use within the clinical setting. The success of the ICF depends on its uptake in clinical practice (Geyh et al., 2004). A procedural manual and guide for standardised application of the ICF has been developed to assist practitioners (WHO, 2013), but this process has identified problematic areas within the ICF; in particular, the overlap of some of the codes and qualifiers as well as difficulties distinguishing between activities and participation (Reed et al., 2005).

A comprehensive literature review in 2009 concluded that the ICF was a globally accepted framework (Jelsma, 2009), yet the majority of the articles in the review focused on explaining the conceptual framework or applying it to the management of data collection, rather than using it in clinical practice with healthcare professionals and multidisciplinary teams. In 2011, a systematic review also concluded the majority of the 670 ICF papers examined were conceptual in nature (Cerniauskaite et al., 2011). Nonetheless, 173 papers focused on using it in clinical practice but these were mainly anecdotal reflections, or applying it in theory. The main conclusions from the clinically focused papers were that the ICF has the potential to

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improve team communication (e.g. Rentsch et al., 2003; Steiner et al., 2002), enhance inter-agency communication (e.g Martinuzzi et al., 2008; Darzins, Fone and Darzins, 2006), help clinicians construct a broader view of disability (e.g. O'Donovan, Doyle and Gallagher, 2009; Raggi, Leonardi, Cabello and Bickenback, 2010) and clarify team roles (Tempest and McIntyre, 2006; Mitchell, 2008).

None of the papers from the two reviews engaged, in a systematic manner, with neurorehabilitation clinicians in order to identify the process and outcome of the implementation process. Furthermore, clinicians still need to be convinced of the worth of investing time and finances into adopting the ICF into practice (Farrell, Anderson, Hewitt, Livingston and Stewart, 2007), partly as they may lack in-depth knowledge and experience in using the framework (Farrell et al. 2007; Heinen, van Achterberg, Roodbol and Frederiks, 2005).

Empirical evidence regarding the process of implementing the ICF in practice is scarce (Verhoef, Toussaint, Putter, Zwetsloot-Schonk and Vliet Vlieland, 2008). Explicit use of change management theory has been suggested (Appleby and Tempest, 2006) and training programmes have been established, which are considered an effective way to teach health and social care professionals about the ICF (Francescutti, Martinuzzi, Leonardi and Kostanjsek, 2009; Bjorck-Akesson et al., 2010). However, the challenge of understanding the benefits of training is that it remains unclear if the ICF subsequently transfers into the clinical setting (Francescutti et al., 2009).

There is also scarce empirical evidence on the outcome of implementing the ICF into clinical practice. However, a study of two multidisciplinary teams in rheumatology (Verhoef et al., 2008) concluded that health care professionals held mixed opinions on the benefit of the implementation of the ICF. While staff satisfaction with team conferences increased in a day-patient setting, this effect was absent with staff in an inpatient setting. This study offers an insight, into staff perceptions, on the use of the ICF in clinical practice but, as the data was quantitative in nature, it is not known why staff held these opinions. Furthermore, the opinions from patients, carers and those beyond the multidisciplinary teams were not sought and these could have enhanced a fuller understanding of the outcomes. The research team concluded that the outcome of introducing ICF-based tools should be studied at the level of individual teams, to gain a greater understanding of the effects of using it in practice (Verhoef et al., 2008).

Therefore, despite the general endorsement and acknowledgement of the potential use of the ICF in clinical practice (Cerniauskaite et al., 2011), there has been no systematic attempt to explain or evaluate the means by which it can be implemented. There has been only one paper (Verhoef et al., 2008), using quantitative data to measure the outcome of so doing, which sought to assess staff satisfaction with the ICF; however this was in the field of rheumatology and not neurorehabilitation. These were some of the drivers for the body of action research currently being undertaken in England.

2. Using action research to evaluate the process and outcome of implementing the ICF within neurorehabilitation in England

The first action research project, working with participants from one acute stroke team and its associated stakeholders, identified 15 different ways the ICF would benefit their service (detailed in Tempest, Harries, Kilbride, and De Souza, 2013). Participants chose to focus on developing an ICF-based transfer of care report, with an ICF glossary (using the detail from the core set for stroke) to aid its completion. On reviewing the outcome from the project, it was concluded that the use of the ICF enhanced communication within and beyond the stroke team, aided holistic thinking and helped to clarify team roles (Tempest et al 2013). However, in order to implement it into practice, the participants (including the multidisciplinary stroke team, patients, their families, and community neurorehabilitation colleagues) needed to adapt some of the language and adopt it in a way that met their local needs (Tempest, Harries, Kilbride and De Souza, 2012). To clarify, because the ICF is endorsed by the WHO and the National Clinical Guidelines for Stroke (ISWP 2012), it became a vehicle to drive through a change previously desired, i.e., a transfer of care report, which had not been formerly achieved by the participants.

On reflecting upon the experience, participants in the first project shared their experiences in the form of recommendations for others wanting to implement the ICF (see Table 1).

On sharing these experiences a second project was developed, this time with participants in a different community neurorehabilitation team. Working with the same action research approach (see Tempest et al. 2012), the second author of this paper worked with different participants to review the 15 original suggestions and identify additional ways to implement the ICF

Table 1

Recommendations for other people wanting to introduce the ICF into their own clinical setting from the reflective focus group and interviews

Be prepared to pilot, pilot, pilot!

Don't worry about just having a go – you can change things from doing this.

Pick projects that are practical and the majority of people would like to change in your team.

Have one person to facilitate the project, e.g. a stroke coordinator, although an external person is better as they avoid the day to day politics and often see something with fresh eyes.

Be prepared that the project will take time.

Share what you are doing with everyone in the team – even if they don't want a big role.

Share what you are doing with people outside of the team – external feedback is useful and can also be motivating and nice.

Expect peaks and troughs throughout the project.

Don't give up if you run into problems – find a way around them.

At the start, do a team analysis of the potential driving forces and restraining forces that may occur during the project – embrace the positives and think about ways to manage the negatives.

Table 2

Ways the ICF could be used in neurorehabilitation as identified by clinicians

1. Use as a structure for a multidisciplinary assessment form
2. Use as a structure for goal setting
3. As a framework for clinical reasoning when assessing
4. As a template to streamline all documentation
5. To use as a structure for a multidisciplinary discharge report
6. As a common language within the MDT notes
7. To provide a direct link between issues identified on assessment and goal setting
8. As a communication tool to use with clients about the purpose of rehabilitation, their goals and intervention plan
9. To foster a cohesive and consistent method of communication between teams and agencies
10. To define the remit of the overall service and individual teams within the service for commissioners, those referring and those within the team
11. To communicate a patient's rehabilitation status and needs when referring on
12. As a flow chart to guide clinical decision making
13. As a guide to outcome measurement selection
14. To enhance training for goal setting
15. To structure and record multidisciplinary meetings e.g. ward round
16. To ensure all potential areas of rehabilitation have been considered
17. As a standard format for presenting clients to other professions e.g. in supervision
18. To identify unmet needs in the current service provision and target service development areas within and across teams
19. Using the ICF structures / headings as a marketing tool because it is evidence based, internationally endorsed and aligned with best practice i.e. not a home-grown tool!
20. To use the ICF framework and classification as a structure for in-service training and CPD (continued professional development)
21. To use as a structure to identify areas for care planning
22. To structure an induction booklet for new staff and students
23. As a guide for the dutying system so the person on duty knows which profession to refer to
24. As a guide for prioritising within the dutying system
25. As a structure for a risk assessment and strategies for managing risk
26. To use the ICF framework and classification as a structure for developing competencies
27. As a ready reference in the front of the MDT notes
28. As a structure for a risk assessment and strategies for managing risk
29. As a checklist to structure the care booklets (transfer information from one organisation to another)
30. As a framework to explain how the services interface to meet the client's needs
31. As a guide for the dutying system so the person on duty knows when a referral is not for the specific service
32. As a guide for the duty system so the person on duty knows who the referral should be for if it is not for the specific service
33. To identify and communicate which member of the team leads or is involved in different areas of care, as outlined by the ICF headings
34. As a pocket guide for staff to use as a ready reference
35. As a guide to skill mix when establishing teams

within neurorehabilitation. This resulted in an overall total of 35 possible ways to utilise the ICF within this field (see Table 2).

Many of these ideas reasonate with those postulated in the literature. The key point here is that these ideas have been identified by those working specifically within neurorehabilitation and, in so doing, the action research approach has enabled clinicians to learn more about the potential for the ICF while implementing it at the same time.

Following the process of exploring potential uses for the ICF, the participants in the second project selected its use 'to explore using the ICF for clinical reasoning within an interprofessional team'. Full analysis of the data from the second action research project is currently underway although preliminary findings suggest a pragmatic approach to its use, dependent on factors such as: the complexity of the patient; the (perceived) demands on the team or individual clinician; the clinicians depth of knowledge (of the ICF); and the perceived complexity of the ICF. These impressions broadly reflect those expressed by Farrell et al. (2007).

3. Conclusion and clinical implications

The evidence on the process and outcome of implementing the ICF within neurorehabilitation practice is scare. Now there are 35 different ways, identified by neurorehabilitation clinicians, for the potential use of the ICF in clinical practice. The implications for practice are that: 1) using an action research approach offers support for clinicians to learn and think about the ICF whilst implementing it at the same time; 2) clinicians, working in neurorehabilitation, can identify many ways for the uptake of the ICF into their practice; and 3) reflecting on the process of ICF implementation, there are now recommendations and pragmatic suggestions for other neurorehabilitation teams wanting to do the same.

Finally, when identifying the key learning from the outcome of developing ICF based clinical tools, it has been determined that the ICF enhances clarity and aids holistic thinking. But, in order to adopt the theory into practice it must be adapted to meet the local service needs. Using an action research approach has enabled the theoretical framework and classification to become a clinical reality within neurorehabilitation.

4. Future research

The first two projects detailed here explored the use of the ICF to develop a transfer of care report and a clinical reasoning tool. Future research could explore the process and outcome of implementing the ICF for the other ways, identified in Table 2. Both projects involved one action researcher working with one team at a time, thereby resource intensive. Future action research projects could explore the effectiveness of different models of practice including facilitating a number of teams who work and explore the issues together across different clinical settings.

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Appendix F: Publication.

Tempest, S and Jefferson, R (2015) Engaging with clinicians to implement and evaluate the ICF in neurorehabilitation practice. *NeuroRehabilitation*. 36 (2015)