A clinical reasoning framework for community occupational therapists

A formative evaluation study

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Abstract

Community occupational therapy in New Zealand brings challenges to the clinical reasoning process because the caseloads of individual therapists are high and the scope of the role is wide and generalist in nature. In addition, working alone in isolated locations is common and each case presents a substantially new situation for the therapist in the form of the client, their outlook, family dynamics and environment. The literature suggests that therapists can improve their clinical reasoning; contributing to positive outcomes for the client, the service and the profession, by using a framework, model or protocol as a practice guide. A practice guide can provide a structure that encompasses all of the elements for consideration; which helps therapists make good therapeutic decisions and keeps interventions relevant to practice. No literature was found that indicated community occupational therapists in New Zealand were using a practice guide for clinical reasoning.

This small scale formative evaluation study presents a clinical reasoning framework, developed by the researcher from concepts influential in the occupational therapy literature. The framework aims to increase users’ knowledge of the multifaceted nature and types of clinical reasoning and how they interrelate, to provide clarity to complex clinical situations to improve decision making and communication of reasoning processes. Four community occupational therapists in the mid North Island of New Zealand evaluated the clinical reasoning framework over a six week period and describe the impact and value of using the framework to their practice.

The participants of the study concluded that the clinical reasoning framework brought value to their clinical practice. In particular the value identified was: a) structure to practice, b) encouraged critical reflection, c) identified gaps in knowledge, d) brought to the foreground the multi aspects of clinical reasoning, e) encouraged theory and best practice and, f) improved understanding and articulation of the clinical reasoning process. The framework was considered to be useful to the practice of all community occupational therapists, particularly students and new graduate therapists.
Chapter 1: Overview

Chapter 1 presents an overview of this research project. The background information which led to the completion of the study and the context, within which it occurs, is presented along with a justification for undertaking the research. The study aims and research questions are explained in section 1.4, and then a brief outline of the thesis is given in section 1.5.

1.1 Reasons for interest in this topic

Working as a lone physical health community occupational therapist in rural New Zealand and having the responsibility of providing staff and students with clinical supervision, were both central to developing an interest in this area of study. Clinical reasoning, in its shortest and simple explanation is, the thinking that guides clinical practice (Rassafiani, Ziviani, Rodger, & Dalgleish, 2008). In community based occupational therapy, clinical reasoning skills are tested frequently because the scope of the role is wide and generalist in nature. Knowledge gained through the completion of postgraduate studies led the researcher to a deeper examination of the complexities involved in clinical reasoning and how best to support students and therapists when working through clinical issues.

1.2 Community occupational therapy in New Zealand

Community occupational therapists work with clients to promote health and maximise function and quality-of-life following physical, social and emotional health difficulties (Mitchell & Unsworth, 2004). Interventions often occur in the client’s home environment and include the provision of education, assistive equipment, and modification following an occupational therapy assessment (Mitchell & Unsworth, 2004). Efficiency is important as input usually occurs over a small number of home visits (Carrier, Levasseur, Bédard, & Desrosiers, 2010; Mitchell & Unsworth, 2005). Typically, therapists use service developed assessment guides and informal theories developed in the course of their practice to guide their interventions (Mitchell & Unsworth, 2004, 2005).
In New Zealand, specifically in rural areas, working in isolation and autonomously is common. Having infrequent contact with other occupational therapists has implications for safe practice and the use of core occupational therapy skills, due to limited peer supervision and opportunities for critical reflective practice. In addition, referrals consist of a large variety of client populations requiring a variety of treatment approaches and services (Peterson, Ramm, & Ruzicka, 2003). As a result, keeping abreast of relevant research is often an enormous task, therefore limiting the chances of practice being evidence-based.

1.3 Justification for the study
There is an increased need to justify clinical decisions, use evidence-based practice, as well as balance cost with the needs of the client (Torcivia & Gupta, 2008). Literature suggests that the use of a structured guide or approach to clinical practice can benefit and improve clinical reasoning (Greber, Ziviani & Rodger, 2007; Stewart, 2001; Kuipers & Grice, 2009a, 2009b; Kuipers & McKenna, 2009) which in turn should contribute to the positive outcomes for the client, service and profession. Therefore, the challenges that accompany lone working and generalist practice, experienced by community occupational therapists, might benefit from the use of such a structure. A search of the literature found one article relating to the clinical reasoning of New Zealand community occupational therapists (Paddy, 1997) however, this study was not linked to use of a structured guide to aid clinical reasoning. No studies were found that suggested a structured guide was in use in community occupational therapy, either in New Zealand or elsewhere.

1.4 Project aim and research questions
In an attempt to support community occupational therapists with the issues that they face, in relation to lone working and heavily varied caseloads, a framework that aimed to guide clinical reasoning was developed by the researcher. The aim of this study was to evaluate the use of the clinical reasoning framework in practice. The overarching research question posed to the participants is: What is the value of using the clinical reasoning framework in practice?
To determine its value, community occupational therapists used the framework in their practice setting over a six-week period, gave feedback and made suggestions for improvements. Additionally, the study sought to gather some preliminary information towards answering the following questions, but will not draw specific conclusions. What is the participants’ knowledge of their clinical reasoning? What are the effects of applying a framework to practice? Is there a link between opinions about the framework and level of experience?

1.5 Overview of the chapters

The literature review, chapter 2, explores the types of clinical reasoning described in the occupational therapy literature, the influence of the individual therapist and the application of models and framework structures to enhance reasoning.

The clinical reasoning framework that is under evaluation is presented and explained in chapter 3.

Exploring the participants’ evaluation of the framework and its usefulness to their clinical practice was the key purpose of the study; therefore a qualitative evaluation approach was adopted. The design and scope of the study is discussed in detail in chapter 4 which outlines the methodology and methods used. Participants of the study were occupational therapists working in a community physical health setting in the North Island of New Zealand. Data gathering was primarily through semi-structured interviews completed before and after exposure to the framework. Iterative/thematic analysis was employed to categorise responses and identify themes arising from the findings.

The findings of the study, including the participant’s evaluation of the clinical reasoning framework is presented in chapter 5. Finally, chapter 6 provides an analysis and synthesis between the findings from the study and the pre-existing ideas and knowledge; conclusions are drawn from those patterns of meaning and recommendations for future work are given.
Summary

This study was instigated through the researcher's professional experience and awareness of the difficulties faced by community occupational therapists in rural New Zealand. The undertaking of postgraduate studies prompted the development of a clinical reasoning framework, which is evaluated in this small scale study. The clinical reasoning framework is proposed to have benefits for therapists at all experience levels, but in particular for new graduates and students as both a supervision tool and a reflection tool. The scope and potential of using the clinical reasoning framework in community occupational therapy practice is explored in this study.
Chapter 2: Literature Review

This chapter provides the reader with a background of the literature related to clinical reasoning in occupational therapy. The first two sections, types of reasoning that occupational therapists use and the influence of the individual therapist in the clinical reasoning process are included because these two areas underpin the development of the clinical reasoning framework. Lastly, the potential value of using models and frameworks when working through the clinical reasoning process is explored.

2.1 Clinical reasoning in occupational therapy

This section of the literature review will present a definition of clinical reasoning, provide a brief background to the context of clinical reasoning in occupational therapy and explore the types of reasoning evident in occupational therapy practice.

Defining clinical reasoning in occupational therapy

Clinical reasoning is a complex interactive thinking process which unfolds over the entire course of therapy (Bailey & Cohn, 2001). During therapy, therapists frame problems and make judgements that are specific to a context, about how to provide intervention for a particular person, in a particular place and time (Schell, 2009). Many definitions of clinical reasoning exist in the literature. Creek (2003) in her work defining occupational therapy as a complex intervention states that clinical reasoning is “the mental strategies and high level cognitive patterns and processes that underlie the process of naming, framing, and solving problems that enable the therapist to reach decisions about the best course of action. Clinical reasoning translates the knowledge, skills and values of the therapist into action and ensures that occupational therapist’s practice occupational therapy and not some other form of intervention” (p.51).

The primary concerns of clinical reasoning for the occupational therapist are a) to determine the client’s occupational performance status, problems, and potential for improvement; b) to select appropriate interventions and c) to judge how effective selected interventions are, and when and how interventions should cease (Schell, 2009). Proficient clinical decision-making skills are essential to clinical reasoning at every
stage of the occupational therapy process (Torcivia & Gupta, 2008). What is not always clear or fully understood, is exactly how the essential information in a clinical setting is identified and evaluated by therapists to arrive at decisions throughout the clinical reasoning process (Rassafiani, Ziviani, Rodger, & Dalgleish, 2006). A decision is defined as the point of choice or judgement between alternatives (Arocha & Patel, 2008). The expectation for occupational therapists to provide evidence to support their decisions, be accountable for their interventions to ensure that resources are used effectively and that client outcomes improve, is now greater than ever (Craik & Rappolt, 2003; Stergiou-Kita, 2010).

A brief background to clinical reasoning in occupational therapy

Prior to the early 1990s clinical reasoning in health care was medically orientated. The focus was on acquiring and managing information gained from the clinical situation in a logical and deductive manner (Turpin & Iwama, 2011). Research then was based on the cognitive reasoning processes of the therapist, similar to those identified in the fields of psychology and medicine (Rogers & Masagatani, 1982). Hypothetico-deductive reasoning and occupational diagnostic reasoning (Rogers & Holm, 1991) are both scientific based cognitive reasoning strategies whereby a hypothesis is generated and tested via information processing and problem solving techniques to address client’s occupational needs. In other words reasoning was a logical and rule based decision making process linked with the scientific knowledge known about humans, disease, injury (Tomlin, 2008).

A major study took place in America in the late 1980s (Mattingly & Fleming, 1994) which changed the perspective of clinical reasoning in occupational therapy. The study involved interviewing, observing and videoing occupational therapists over a two-year period. From the finding of this study Fleming presented the concept that occupational therapists use multiple strands of reasoning and think and act in practice changeably in response to particular features of clinical problems. Three reasoning tracks commonly used by occupational therapists were identified and referred to as the three track mind: procedural, interactive and conditional reasoning. The authors linked these three tracks to the reasoning strategies used in practice and also described another mode of reasoning; narrative reasoning. In addition, the researchers drew upon the earlier work
of Schon (1983) and recognised the significance of structured critical reflection as a way of making unspoken clinical reasoning explicit (Mattingly & Fleming, 1994).

The work of Mattingly and Fleming has been highly influential in changing the profession’s view of clinical reasoning away from the medical mode of thinking. Later studies of clinical reasoning in occupational therapy have further investigated these different tracks of reasoning and have focused on describing the thought content of therapists within the boundaries of the three tracks (Alnervik & Sviden, 1996; Munroe, 1996). Other clinical reasoning types that are highly significant in the clinical reasoning process also exist and are discussed later in this chapter.

Exploring the types of clinical reasoning

There are differing perspectives of the focus and the content of the clinical reasoning process in the literature, an attempt is made to provide an account of the main types of reasoning evident in the literature, summarised in Table 2.1.

Scientific reasoning

Scientific reasoning is used to understand the condition that is affecting an individual and to decide on interventions that are in the client's best interests (Schell, 2009). For the purpose of this study occupational diagnostic reasoning, procedural reasoning and problem solving/information processing are all encompassed within the term scientific reasoning (refer to Table 2.1). Scientific reasoning is a systematic approach to testing and using knowledge to make decisions relating to or using the methodology of science, overlapping somewhat with evidence based practice, as both are interested in the evaluation and application of research evidence to clinical practice (Tomlin, 2008).

Occupational diagnostic reasoning (Rogers & Holm, 1991) is concerned with the identification of occupational performance problems, in relation to the client’s occupational functioning due to the issues faced by the clients as a result of their condition. Typically occupational therapists will identify occupational performance problems prior to seeing the client based on the information received at the initial referral and any knowledge of previous similar clients. Linked to occupational
### Table 2.1 Different types of reasoning in occupational therapy

<table>
<thead>
<tr>
<th>Aspects of reasoning</th>
<th>Description of focus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scientific reasoning</strong> includes:</td>
<td></td>
</tr>
<tr>
<td>• Diagnostic reasoning (Rogers &amp; Holm, 1991)</td>
<td>• The application of logical and scientific methods, such as hypothesis testing, pattern recognition, theory based decision-making and statistical evidence.</td>
</tr>
<tr>
<td>• Procedural reasoning (Fleming, 1991b)</td>
<td>• Consideration and use of interventions that is routine for identified conditions that are science-based or reflective of the habits and culture of the intervention setting.</td>
</tr>
<tr>
<td>• Cognitive strategies e.g. hypothetico-deductive reasoning, problem identification/solving</td>
<td>• Focus is on the cause or nature of occupational performance problems that are requiring occupational therapy intervention.</td>
</tr>
<tr>
<td><strong>Interactive reasoning</strong> (Fleming, 1991b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Thinking is directed towards building positive interpersonal relationships with clients, allowing for collaborative problem identification and problem solving.</td>
</tr>
<tr>
<td></td>
<td>• Reasoning that informs what comes next and how it is delivered, determined by the relationship that the therapist forms with their client.</td>
</tr>
<tr>
<td><strong>Conditional reasoning</strong> (Fleming, 1991b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• A blending of all forms of reasoning, flexibly responding to changing conditions to predict possible future for clients.</td>
</tr>
<tr>
<td></td>
<td>• Based on therapists previous experiences and current information &amp; clients hopes for the future.</td>
</tr>
<tr>
<td><strong>Narrative reasoning</strong> (Mattingly, 1991)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The construction of stories used to make sense of people's personal circumstances. Clients share stories of their illness and describe the unique impact it has on their lives and therapists use stories to collaborate with clients to share understanding and imagine future possibilities.</td>
</tr>
<tr>
<td></td>
<td>• Additionally therapists tell stories to each other about how they interact to intervene with the clients we treat.</td>
</tr>
<tr>
<td><strong>Pragmatic reasoning</strong> (Schell &amp; Cervero, 1993)</td>
<td></td>
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<tr>
<td></td>
<td>• Practical knowledge around resources and options that are available to meet client needs within the reality and context of</td>
</tr>
<tr>
<td></td>
<td>a) Environment i.e. service delivery, such as time constraints funding/equipment criteria and availability, services available, organisational demands.</td>
</tr>
<tr>
<td></td>
<td>b) Personal i.e. therapists skills, and the personal situation of the Therapist.</td>
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<tr>
<td><strong>Ethical reasoning</strong> (Rogers, 1983)</td>
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<tr>
<td></td>
<td>• Reflection and analysis of the situation leading to interventions/actions planned according to the principles of the occupational therapy code of ethics, legal principles, and the therapists own belief systems.</td>
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</tbody>
</table>

Adapted from (Schell, 2009; Torcivia & Gupta, 2008)
diagnostic reasoning, therapists use procedural reasoning (Fleming, 1991b) which considers and uses intervention practices that are diagnostically driven by particular conditions. Procedural reasoning can be science based and/or reflective of the habits and culture of the intervention setting characterised by therapists’ routines (Schell & Schell, 2008).

Problem identification and problem solving are analytic processes whereby a course of action is decided upon, or one or more solutions to a problem are identified and tried until one is found to be effective (Hagedorn, 2001). Problem solving occurs in two stages; in stage one the problem is identified and understood and in stage two the goals are determined and the actions/solutions required to achieve the goals are considered (Robertson, 1996a). The success of a problem solving approach relies heavily on the identification of problems that are pertinent to the problem space, in other words the context and area of concern for the problem solver. Identification of the problems relies on the problem solver accurately identifying, interpreting and responding to cues; cues come from the client, the environmental and social context of the situation. The problem solver draws on information from many sources, for example past professional experiences, personal experience, theory and memory and hypotheses are generated based on knowledge of the disease or disability and its effects on function (Robertson, 1996a). In problem identification and problem solving, therapists merge theories with their own personal and practice experiences to guide their actions (Schell, 2009).

The field of cognitive psychology helps us to understand how therapists process information and how experience, combined with reflection, increases expertise. Individuals receive, store, and organise information in frames or chunks of information, which are complex representations of phenomena into their long term memory (Carr & Shotwell, 2008). Therapists with an extensive clinical experience store and organise information as frameworks of a general representation of what to expect of someone who has a particular condition (Robertson, 1996a); the frameworks contain built-in rules that categorise and identify differences associated with that particular medical diagnoses. Accompanying this, experienced therapists store procedural rules that help to guide thinking in terms of the scope and context of their practice setting. These efficient frameworks support effective processing of complex information and problem solving known as pattern recognition (Schell, 2009).
Interactive, conditional and narrative reasoning

The remaining two strands of the three-track mind theory of clinical reasoning are referred to as interactive and conditional reasoning (Fleming, 1991). These two modes of thinking are played out in clinical practice using narrative reasoning processes.

Interactive reasoning is the consideration of the impacts of the disability on the client and engaging the client with the purpose to adapt treatment to suit their individual needs (Mattingly & Fleming, 1994). Therapists are doing interactive reasoning when their thinking is directed towards building positive interpersonal relationships with clients, allowing for collaborative problem identification and problem solving. Interactive reasoning is a combination of scientific, narrative, pragmatic and ethical knowledge; as it occurs in that moment (Schell, 2008). Therapists achieve the ability to reason in this way through therapeutic use of self and a range of interpersonal strategies that help them read the situation and motivate clients (Hagedorn, 2001).

Therapists need to be flexible and have the ability to modify interventions in response to changing conditions when interacting with clients (Schell, 2009). The ability to achieve this requires a blending of all of the forms of clinical reasoning, referred to as conditional reasoning (refer to Table 2.1), and relies heavily on having sufficient clinical experience to have seen a variety of different outcomes with former clients. Conditional reasoning draws upon the therapists clinical experience and involves an understanding about the wider context of a situation, including social and family dynamics/supports, spiritual and cultural aspects (Mitchell & Unsworth, 2005). The therapist is able to use this conditional reasoning to help predict possible future outcomes for the client ensuring that appropriate therapeutic activities are selected to help to re-engage clients in their lives through the use of purposeful and meaningful occupations (Schell, 2009).

In efforts to engage the client in the therapy process and to make sense of the meaning that disease, illness, or disability has to an individual, therapists may also adopt narrative reasoning (Mattingly, 1991; 1994). When using narratives with clients, occupational therapists can construct a future story with the client, which they hope to enact together throughout the therapy process. Narratives help us to understand ourselves and others lives, problems and situations. In particular, they help the client connect with their past, present and consider a different future; they also help the therapist discover what motivates the client and what is meaningful to them. When used
in collaboration with other types of reasoning, narrative reasoning enables the therapist to have a personal focus on the client as an occupational being and provides a link between the scientific foundations of practice and the subjective, personal and cultural aspects of the clients lived experience (Schell, 2009).

**Pragmatic reasoning**

In addition to the therapist-client relationship, pragmatic reasoning addresses the world in which the therapy occurs (Schell & Cervero, 1993). There are a range of personal and practice related factors that influence clinical reasoning and the therapy process (Unsworth, 2004). Personal factors relate to the therapist, such as clinical competence, beliefs, ethics and motivation; all have significant influence over therapy choices and therefore influence clinical reasoning (Schell, 2009). Fundamental issues such as a therapist’s values and general worldview, strongly affect the way in which reasoning is constructed (Hooper, 1997). Worldview is commonly understood as an individual’s underlying assumptions about life and reality which are shaped by personal, cultural and historical contexts, which may positively or negatively influence pragmatic and other types of clinical reasoning (Unsworth, 2004). This aspect will be discussed further in section 2.2.

Practice related factors include workplace protocols, resources for interventions, organisational culture, relationships amongst team members and practice trends of the profession and organisation. Pragmatic reasoning draws on the therapist’s practical knowledge, predominantly based on tacit knowledge and knowledge that comes from the therapist’s sense of what he/she perceives is capable of or has the time/energy to complete (Schell, 2009). Tacit knowledge and clinical reasoning is discussed in more depth later in this chapter.

**Ethical reasoning**

Ethical issues are present in professional practice and will continue to challenge occupational therapists. Ethics is described as the ways in which we behave and the quality of moral values that we have (Atwal & Caldwell, 2003). Ethical or moral reasoning is used to reflect on the ethical issues faced in practice and is about
considering the norms, values and ideas of right and wrong of those concerned, in order to arrive at decision in their practice (Barnitt, 1993). Ethical reasoning prompts us to consider what should be done in a situation, rather than only considering what can be done (Schell, 2009). If ethical dilemmas are not recognised or considered thoroughly, it can lead to poor client interactions and has implications for the profession.

Calling for an ethic of care to be the moral framework within which both clinical and ethical reasoning occurs and from which clinical and ethical competence develops, Wright St-Clair (2001) proposes that caring is the motivation for good occupational therapy practice. Instilled within the profession’s history and philosophy of holism and client centred practice, caring ensures that we engage with the client in a therapeutic relationship to facilitate recovery (Wright-St Clair, 2001). Ethical behaviour is the responsibility of all occupational therapists (Doherty, 2009), and for those practicing in New Zealand, the New Zealand Association of Occupational Therapists (NZAOT) and the Occupational Therapy Board of New Zealand (OTBNZ) sets out the code of ethics and professional standards to guide practice. Occupational therapists must recognise, critically reason, act, and reflect on ethical issues that arise in their professional roles (Rogers, 1983). Therapists who are reflective and knowledgeable in ethical decision-making processes are best prepared to successfully address ethical aspects of practice (Horowitz, 2002).

**Summary**

Clinical reasoning is concerned with the ways in which therapists think during their clinical practice (Mattingly & Fleming, 1994). It is important to note that the clinical reasoning styles described here do not occur in isolation, rather they are intertwined throughout the therapy process. During therapy, therapists interact and collaborate with their client to determine the domains of concern and how, where and when intervention should occur. Through critical thinking and questioning, the therapist draws on the different aspects of the reasoning process to address the primary concerns of clinical reasoning; a) to determine the client’s occupational performance status, problems, and potential for improvement and b) to judge how effective chosen interventions are, and when and how interventions should cease (Schell, 2009). As discussed in pragmatic reasoning, how the therapist approaches practice also influences the clinical reasoning process and this is the focus of the next section.
2.2 The influence of the therapist in the clinical reasoning process

Clinical practice is shaped by the therapist’s understanding of the world around them; their worldview. This section will discuss how the practice approach of the individual therapist shapes the clinical reasoning process.

Reflective therapists

A strong influence over the clinical reasoning of individual therapists and a core theme throughout this section is the active use of reflective practice skills. Reflection is the “self-monitoring of thoughts and feelings, and the self-regulation of actions that lead to increased practice efficiency, insight, knowledge and skills” (Creek, 2003, pg58). Reflection should occur in and on action. Reflection in-action involves thinking about your actions during the therapy process and acting on feedback from the situation, whilst reflection on-action involves returning to the event, recording and evaluating the experience well after it has happened (Schon, 1983). Reflection prevents clinical practice from becoming automatic and should occur regularly, particularly when uncertain situations arise, otherwise more intuitive processes might dominate our clinical reasoning (Creek, 2003).

Additional to reflection, reflexive practice is described by Blair and Robertson (2005) as “an immediate and continuing process of self-awareness throughout therapy...thinking about your own impact on practice” (pg.270). Being reflexive and engaging in regular structured reflection are important to the development of knowledge, expertise and intuition of individual therapist’s (Chapparo & Ranka, 2008).

The therapist’s personal and professional knowledge

A therapist brings a blending of his/her professional identity, personal identity and knowledge which impact on their individual practice and clinical reasoning. Therapists are encouraged to continuously develop professionally, challenge and refine personal theories and extend their knowledge base throughout their career.

Professional identity is gained from education, work experience and both formal and informal encounters with colleagues. Having a strong professional identity is having a good understanding of yourself, the philosophy of your profession and the responsibilities and capabilities that you hold as a professional (Kielhofner, 1992). An
unclear professional identity may result in clinical reasoning that is not appropriate to occupational therapy perspectives. Professional identity links in with propositional knowledge which derives from the formal theoretical origins of the profession based on research and science and forms an important part of the therapist’s knowledge base. Higgs and Titchen (1995) propose that health professionals’ knowledge occurs in three forms: propositional knowledge; consisting mainly of theoretical and scientific knowledge, personal knowledge; related to the therapist’s sense of self and professional craft knowledge.

Propositional (theoretical) knowledge underpins the concept of the expert practitioner (Turpin & Iwama, 2011). Having years of experience and doing tasks repeatedly without self-reflection or feedback does not lead to the development of expertise (Burgess, Rassafiani, & Copley, 2008); instead therapists are thought to develop expertise and reasoning skills in a variety of ways according to the diversity of the clients they treat, the structure of the treatment environment, the demands of the setting, and their own interests and learning styles (Torcivia & Gupta, 2008). Practitioners that are considered to be experts have the capability to unpick extremely complex problems that arise in practice and make judgements that are optimal for the circumstances of the client and the context (Paterson, Higgs, & Wilcox, 2005). Studies indicate that pattern frameworks stored within the expert’s memory influence the speed of problem identification and the ability to prioritise important information (Gibson, Velde, Hoff, Kvashay, Manross & Moreau, 2000; Roberts, 1996; Unsworth, 2001).

Whilst professional identity and propositional knowledge focuses on expertise and scientifically ‘knowing that’, personal knowledge and professional craft knowledge both focus on ‘knowing how’ (Higgs & Titchen, 1995; Turpin & Iwama, 2011). It is this knowledge; the ‘knowing how’ that is often tacit and embedded and supports the conditional and interactive aspects of clinical reasoning described by Mattingly and Fleming (Higgs & Titchen, 2001). This personal knowledge links in with the personal identity of the therapist, which is shaped by personal experience, personality characteristics, cultures, values and beliefs. Therapists interpret information uniquely resulting in an individual outlook and perspective on the world around them. From this therapists create personal theories which impact and work in with their clinical practice (Hooper, 1997). Personal theories will likely vary and change throughout life and are
formed from experience and perspectives of the ideas and beliefs he/she has been exposed to and observed (Turpin & Iwama, 2011).

*Professional craft knowledge* relates to the practical tasks of the profession, involving tacit knowledge and intuition, and assists the therapist to make decisions and act within an unpredictable environment (Higgs & Titchen, 1995). Therapists with a high level of *professional craft knowledge* are able to make speedy and skilled judgements, but may be unable to explain how they arrived at their decisions (Chaffey, Unsworth, & Fossey, 2010). The expert therapist with a high level of *professional craft knowledge* is more likely to identify and organise information clearer and quicker by applying his/her experience, and both a pragmatic and human perspective. Moreover, he/she is likely to adapt as necessary to new and changing situations resulting in a positive outcome for the client (Robertson, 1996b).

Therapists must constantly update their knowledge and professional identity, challenge their personal theories as well as integrate past experience and clinical expertise with research to ensure that practice is current, client centred and credible. To do this therapists require skills in structured reflection and confidence to be able to interpret and apply research to practice. However, it appears that translating the evidence into practice is challenging to some therapists due to their perceived lack of skill in interpreting the evidence, the limited availability of relevant evidence and organisational constraints. Consequently, what occurs in practice is the tendency to rely more on clinical experience when making practice decisions (Kuipers & McKenna, 2009) leading to a polarisation between theory and practice.

**The therapist’s practice in a client centred way**

Structured and deliberate engagement in reflective practice also increases the therapist’s awareness of both self and others, and is an integral part of the art of practice; as is the therapeutic use of self and the establishment of a client centred relationship (Leicht & Dickerson, 2001). Maintaining an occupational focus and client centred practice ensures that therapists are practicing occupational therapy in accordance with the philosophy of the profession, and not some other form of therapy. Within client centred practice a partnership exists between the therapist and the client, where by the client’s occupational goals are priority during therapy. The interventions are adapted to meet the
client’s occupational needs and the client is actively involved in making decisions (Sumson, 2000). Clinical reasoning should occur in the context of the client centred practice (Higgs & Jones, 2000). Experienced therapists, in comparison to novice therapists, often gain a thorough understanding of the client’s perspective and find it easier to allow the client to lead the therapy process, resulting in a client centred approach (Sumson, 2000). Consistent with the concept of interactive reasoning, some studies suggest that the client’s individualised needs do influence therapists’ decisions and clinical reasoning, consistent with the philosophy of client centred practice in occupational therapy (Kuipers, McKenna, & Carlson, 2006; Rassafiani et al., 2008; Unsworth, 2004). However, other studies claim that not all occupational therapists find it easy to attain or retain an occupational and client centred focus to their work. There are occupational therapists who struggle to link the procedural/scientific knowledge and reasoning that underpins practice with the professional craft knowledge and interactive/conditional reasoning to embed an occupational and client focus into their practice (Boniface, Fedden, Hurst, Mason, Phelps, Reagon, & Waygood, 2008; Kielhofner, 2005). Case discussions and peer supervision are strategies that enhance the integration of the science and the craft of practice (Craik & Rappolt, 2003). Reflecting on past, current and possible future clinical encounters occupational therapists can uncover tacit knowledge from their clinical experience and use these insights to evaluate and integrate new ideas into their practice (Craik & Rappolt, 2003).

Chaffey, Unsworth, and Fossey (2010) describe intuition as knowledge without conscious awareness of reasoning that is embedded within the larger clinical reasoning framework. They propose that the use of intuition is commonly associated with client centred and expert practice because increased experience results in increased trust in intuitive feelings. In their study of the intuition of mental health occupational therapists, they identify two main concepts that contribute to intuition: professional experience and emotions. Similar to the concept of professional craft knowledge described by Higgs and Titchen (1995), Chaffey et al., (2010) suggest that professional experience is composed of tacit knowledge, pattern recognition and familiarity with clients. These concepts described relate to one of the core concepts of occupational therapy known as therapeutic self. Therapeutic use of self is the therapists planned use of his/her personality, insights, perceptions and judgements as part of the therapeutic process (Hagedorn, 2001).
Summary

Therapists develop their clinical practice through the linking of professional scientific based knowledge with their worldview, personal knowledge and theories. Essential to the integration of the science and art of occupational therapy is the therapist’s self-awareness; reflexivity and ability to use structured reflection to challenge and develop their thinking. Actively seeking out and engaging in frequent professional development opportunities and being skilled in the interpretation and application of scientific reasoning, alongside experiential learning, ensures that therapists develop expert knowledge and practice skills. The literature suggests that the knowledge of expert therapists is highly tacit making it difficult to identify the impact of clinical reasoning and harder to explain decision making to students, thus having implications for novice therapist’s learning. The next section of the literature review will explore how the application of models and frameworks might assist expert therapist’s to articulate their reasoning better, and develop the clinical reasoning skills of novice occupational therapists and students.
2.3 Clinical reasoning models and frameworks

This section will explore what potential benefits there are to clinical practice when a structure, such as a model or framework is applied. Specifically, discussion will focus on models and frameworks that are designed to improve decision-making and clinical reasoning.

Models and frameworks in occupational therapy

In the current health and social care climate, health professionals are required to demonstrate their value and effectiveness. Models and frameworks are becoming increasingly important in the practice of occupational therapy to improve and demonstrate the quality and effectiveness of service provision (Clarke, 2003). A model is a theoretical definition of a concept, used as a way of guiding practice and the implementation of other theories such as interventions, approaches and techniques (Boniface et al., 2008). Models provide a framework through which to explain and guide occupational therapy, allowing therapists to integrate theory and philosophy into practice (Hagedorn, 2001). In practice, the application of a model or framework can have positive implications for the client and service quality. They can help therapists to think in a systematic way that ensures all aspects of the clinical situation are considered. Additionally they can influence how clients are assessed, what problems are addressed, how therapy is approached, and what kinds of services are offered (Kielhofner, 2009; Schell, 2009).

The literature creates some confusion as definition and description of the term model, varies amongst theorists. Reed and Sanderson (1999) differentiate between conceptual and practice models. According to them, conceptual models explain the “why” of the phenomena of interest, whilst the practice model explains “how” to intervene given the circumstances of those phenomena. In other words, practice models “explain how the ideas of the conceptual model can be implemented into a plan of action to provide services to clients” (Reed & Sanderson, 1999, p. 201). Conceptual models in occupational therapy such as The Model of Human Occupation and The Canadian Model of Occupational Performance, define the core beliefs and perspectives that are fundamental to the occupational therapy profession. The confusion surrounding the definitions, descriptions and elements of a ‘model’ led the researcher to name the
structure under evaluation in this study a ‘framework’. The term framework, described as “a supporting structure that frames collectively” (Collins English Dictionary, 2006), is chosen because the clinical reasoning framework frames the pertinent aspects of clinical reasoning for the user to consider and apply to the particular clinical situation, rather than define the phenomenon of clinical reasoning, as a conceptual model might do. The clinical reasoning framework under evaluation is discussed in detail in chapter three.

It is thought that when therapists have difficulties comprehending a model or framework, they see it as removed from the reality of their clinical practice and they are often reluctant to apply it to their practice (Ikiugu, 2010). Corben, Downie and Fielding (2011) discussed the difficulties of integrating a tool into practice despite the therapists agreeing on its ability to provide superior information to current practice and improve clinical reasoning. The authors alleged that the limited uptake of the tool was due to a lack of confidence and demands of the busy clinical caseload, raising concerns for the implications for professional competency and accountability (Corben, Downie, & Fielding, 2011). Similarly, a literature review of the uptake of clinical practice guidelines in occupational therapy found that there were comparable challenges with clinical guideline implementation (Stergiou-Kita, 2010). Boniface et al., (2008) suggest that to increase the chances of implementation, models and frameworks should be adapted to service need and implemented flexibly. The concern is that if theory is not linked to practice then therapists reasoning skills may not be based on rational and reliable ideas (O'Neal, Dickerson, & Holbert, 2007).

**Justification for using models and frameworks to guide clinical reasoning and decision-making**

The clinical reasoning challenge to occupational therapists today is that of integrating the art and the science of practice as well as the client centred aspects of practice with the evidence available and professional responsibility (Blair & Robertson, 2005; Kuipers & McKenna, 2009). To help meet this challenge it is necessary to equip students and therapists with the tools to enhance their clinical reasoning skills (Leicht & Dickerson, 2001). How clinical reasoning is taught and understood essentially impacts on the practice of the student and therapist. Most reasoning processes used by therapists
are considered to be implicit, therefore having a decision making framework that makes the linking of theory to practice and thinking more evident, should assist with the education of students (Robertson, 1996b).

Aside from assisting students, a decision making framework can also be useful to improve the knowledge and proficiency of experienced clinicians to ensure that practice is current. Often practice settings have common procedures and protocols for the day-to-day practice of occupational therapy (Torcivia & Gupta, 2008) as well as an agreement of the factors identified as influential on decision-making (Kuipers et al., 2006) thus suggesting that a common protocol can be suitable for guiding clinical decision-making. However, the earlier discussions of this literature review have highlighted that there is more to occupational therapy clinical reasoning than a therapist’s ability to use procedures and protocols. In addition, clinicians need to engage in reflection, maintain an evidence base to their practice and develop ethically sound critical thinking skills (Torcivia & Gupta, 2008). These thinking skills are essential to the processing of information in clinical situations to arrive at decisions and judgements, linking reasoning content knowledge to practice situations.

Research indicates that using a model or a practical framework to guide cognitive processing and critical thinking in practice situations improves reasoning and clinical outcomes (Greber, Ziviani, & Rodger, 2007; Kuipers & Grice, 2009a, 2009b; Neistadt, 1998; Stewart, 2001). One reason for this is that such frameworks facilitate the use of relevant theory and evidence in practice situations, thus improving knowledge (Kuipers & Grice, 2009b). Moreover, communicating clinical reasoning appears to be more difficult than the actual process of clinical reasoning itself and the use of a framework is likely to make the communication of thinking more explicit (Ajjawi & Higgs, 2008; Schell & Schell, 2008; Parkinson, Shenfield, Reece, & Fisher, 2011). Communication of clinical reasoning and documenting the effectiveness of interventions are both essential to the continuation of the profession (Torcivia & Gupta, 2008).

Therapists use various strategies to structure their clinical reasoning process in practice (Neistadt, 1998; Neistadt, Wight, & Mulligan, 1998) examples include the occupational therapy process (Craik & Rappolt, 2003; Robertson, 1996a), departmental assessment forms and checklists (Mitchell & Unsworth, 2005) and decision protocols (Kuipers & Grice, 2009b). In the United Kingdom, occupational therapists found through using case formulations (assessment summaries) following assessment, they were able to develop
their clinical reasoning, retain an occupational focus and communicate the issues effectively (Parkinson, Shenfield, Reece, & Fisher, 2011). The study, however, did not reveal the therapists cognitive processing underlying their clinical reasoning that helped them to arrive at the case formula from their assessment data. A study by Kuipers and McKenna (2009) revealed that despite expertise, therapists have difficulties piecing information together and are sometimes uncertain about their clinical decisions due to the complex nature of decision making in the clinical environment. The therapists in this study called for a structure to guide their clinical reasoning.

Such a guide would aim to assist therapists to perceive and interpret relevant cues, factors or characteristics about a person and the context, and then, based on those factors as well as relevant scientific/theoretical and constructed/experiential knowledge, choose the treatment technique that is most likely to facilitate the achievement of the individual’s goal (Kuipers & McKenna, 2009). Kuipers and Grice (2009a) investigated the clinical reasoning of one experienced occupational therapist pre-and post-exposure to a protocol developed for guiding clinical reasoning. The study concluded that there were subtle changes in the content and structure of the participant’s clinical reasoning following exposure to the protocol that previously had not been attended to. A later study investigating the same protocol but using a greater number of participants concluded that novice therapists in particular demonstrated significant change in the structure of their clinical reasoning following exposure to the protocol. The study did not report on changes to the therapists’ practice following exposure and continued use of the protocol (Kuipers & Grice, 2009b).

There are conceptual models that emerge from health professional literature which focus on different aspects of clinical reasoning (refer to Schell, Unsworth, & Schell, 2008). These conceptual clinical reasoning models describe the concept and phenomenon of clinical reasoning, rather than operate as a practical framework to guide clinical reasoning and decision-making during practice situations. No studies found suggested that therapists are using conceptual clinical reasoning models within their daily practice.

Findings of this literature review suggest that models and frameworks are perceived as being useful to practice and regardless of therapists’ experience level they can help to guide and enhance quality of practice. The value in their use is that they can help to
identify and link the interrelated concepts of practice to ensure that all of the key ideas are considered (Purcell, Fleming, Haines, & Bennett, 2009) and can assist the user to recognise the similarities and differences that each new case brings (Bannigan & Moores, 2009; Robertson, 1996a; Torciva & Gupte, 2008). For those new to practice, or to an area of practice, models and frameworks can provide guidelines that give direction and assist to provide parameters around the occupational therapy role, usually related to specific practice areas (Kuipers & Grice, 2009a, 2009b; Kuipers & McKenna, 2009; Stewart, 2001).

**Summary**

Effective clinical reasoning skills should produce benefits for the client, the service and the profession. Engagement in deeper thinking and deliberate reflective processes forces therapists to examine their practice and the influences on their clinical decision-making, including ethical perspectives, personal theories and reflection (Higgs & Titchen, 2001). Models and practical frameworks can assist the user to do this by providing a structure that encompasses all of the elements for consideration and from this, therapists can make good therapeutic decisions and keep interventions relevant to practice. There is no published evidence for a model of clinical reasoning or a practical framework that guides the clinical reasoning of community occupational therapists; or more specific to this study, community occupational therapists in New Zealand. To address this gap, chapter 3 presents a clinical reasoning framework that has been developed and evaluated by New Zealand based community occupational therapists.
Chapter 3: The clinical reasoning framework

This chapter explains the clinical reasoning framework developed by the researcher and evaluated in this study. The framework draws on the work of several theorists (referenced in Table 2.1) and aims to help therapists and students articulate the layers of thinking and decision-making involved in clinical reasoning, to reveal the cognitive processing that occurs during practice. It is anticipated that therapists of all experience levels will benefit from using the framework, but in particular, students and novice therapists. Its proposed use in practice is as a supervision tool and/or a reflection tool to guide the user through the process of clinical reasoning.

3.1 An overview of the framework

The clinical reasoning framework (fig 3.1) is a visual representation of the link between the different aspects of clinical reasoning and the complexities of clinical decision-making in community occupational therapy practice. The framework has four quadrants. The arrows represent a relationship between the quadrants during the process of clinical reasoning and emphasises that the thinking moves from one quadrant to another, in any order, numerous times and continuously. The proposed value of using this structure is that the interrelations between elements of the occupational therapy process can be seen and understood as the therapist moves between the quadrants.

Two of the four quadrants have been developed from clinical reasoning frameworks that have been influential in occupational therapy literature, as discussed in chapter 2. These are problem solving (Robertson, 1996a) and Fleming’s (1991b) concept of the therapists with a ‘three track mind’ (3TM). In the framework, the three strands of reasoning described in 3TM are divided between two quadrants as scientific/procedural reasoning; arising from a scientific approach and interactive/conditional reasoning; arising from a phenomenological approach. Both quadrants are responsive to cues and use problem solving processes, however, the differences are in the types of cues that are responded to. Scientific/procedural reasoning is about the cues that give the therapist an idea of what is likely to be problematic, based on knowledge of medical conditions and usual impacts on function.
Interactive and conditional reasoning respond to cues that emanate from clients and are about their perspectives of current concerns and what the future holds. From this information, therapists gain an understanding of the client’s view of the problem and can adjust their interpretation of what problems should be addressed. These two quadrants complement each other.

The remaining two quadrants draw on the influences on clinical reasoning also discussed in chapter 2; describe the ethical and reflective aspects of decision-making. Ethical reasoning is about the quality of our reasoning, in relation to fulfilling our occupational therapy responsibilities to the client. Learning and reflection is regarded as being highly influential, because it raises awareness of what we do and allows us to learn from our experiences. The boxes adjoining the quadrants offer prompt questions (adapted from Early, 2001) that the therapist might consider at each quadrant. A toolbox (fig 3.2) offers suggestions of tools and processes that the therapist might find useful when considering each quadrant/aspect of reasoning.
Fig 3.1 the Clinical Reasoning Framework (Pre Evaluation)

- Scientific/procedural reasoning
  - What do I know about the diagnosis and prognosis?
  - What ethical issues and consequences?
  - What are the expectations and responsibilities of the therapist/client/system?
  - What should I do?
  - How can we compromise to ensure safety? (risk/benefits)
  - What are the cultural values and beliefs? (personal/client/system)

- Interactive/conditional reasoning
  - What is the client, what is their situation?
  - What is their story, how do they view their illness/disability?
  - What are their problems, views, goals?
  - How can we work together?
  - Awareness of cues from the situation?
  - What practice skills and tools will I use?

- Learning and reflection process
  - What past experience(s) can I use to guide this intervention?
  - Reflection: Occurring in action (self awareness/judgement/awareness of the situation)
  - Reflection: Occurring on action - (after the event)
  - How can I apply my learning - modification of future practice?

- Ethical reasoning
  - Who is the client, what is their situation?
  - What is their story, how do they view their illness/disability?
  - What are their problems, views, goals?
  - How can we work together?
  - Awareness of cues from the situation?
  - What practice skills and tools will I use?
### Scientific/procedural reasoning
- OT process, theories, Frames of Reference, models and approaches
- Relevant protocols and guidelines
- Contextual awareness of the practice setting (pragmatic reasoning)
- Evidence Based Practice
- Problem identification and solving process

### Interactive/conditional reasoning
- Assessment/observation
- Therapeutic use of self
- Client centred goal setting/ interventions
- Narrative reasoning/story telling
- Education: Visual feedback/role play/modelling
- Personal context (culture, values & beliefs)

### Learning & reflection process
- Clinical supervision
- Peer review
- Reflection models
- Reflective journals
- Sharing of ideas and best practice

### Ethical reasoning
- Moral principles: Individual/society/health
- Professional code of ethics/conduct
- Clinical supervision and peer review
- The ethical grid (Seedhouse, 2009)
- Client centred/reflective practice

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**Fig 3.2 the Clinical Reasoning Framework Toolbox (Pre Evaluation)**

DR 06/2011
3.2 The quadrants and the toolbox explained

Quadrant 1: Scientific/Procedural reasoning

With this type of reasoning the cues taken account of are those related to the individual’s problems (connected to their medical condition) e.g. loss of skills in activities of daily living, difficulties in relation to environmental barriers.

This quadrant prompts the user to consider (in no particular order):

The problem identification and solving process

Identification of the problem(s) relies on the problem solver accurately identifying, interpreting and responding to cues. Problems are identified by the therapist in relation to client’s functioning as a result of the condition. Cues come from the client, the environment and the context of the situation. The problem solver draws on information from many sources, e.g. past professional experiences, personal experience, theory (Fleming, 1991a; Fleming, 1991b; Robertson, 1996a).

The knowledge base

Knowledge drawn upon from primary and applied frames of reference and approaches to practice, e.g. neurodevelopmental, biomechanical, and compensatory as well as theory that is specific to occupational therapy that ensures the therapist is truly doing occupational therapy. It is essential to have knowledge of the philosophy of occupational therapy, the reasons for interventions, and the problem space (possible solution paths) which leads onto problem identification and problem solving (Robertson, 1996a).

The context of the reasoning

Involves consideration of the practice setting and client’s social, cultural, economic, and environmental situation, and any practical constraints and implications these might have on decision-making (Hooper, 2008). This includes in-depth knowledge of practice related factors such as policies, procedures, guidelines and expectations set down by the profession, the organisation, and external influences i.e. funding agencies. A good understanding of the context of the role and scope of practice is essential, as is the context of the clinical area.

Tools that are recommended for additional guidance include: occupational therapy and relevant non occupational therapy theory i.e. primary and applied frames of reference,
conceptual and practice models and approaches; evidence based practice; relevant policies, procedures, protocols and guidelines; practice based external influences i.e. time limitations and funding criteria; safety and risk issues; and organisational culture and influences.

**Quadrant 2: Interactive/conditional reasoning**

This quadrant prompts the use of interactive reasoning and conditional reasoning (Fleming 1991; Mattingly & Fleming 1994). In contrast to the logical scientific approach of quadrant one, this type of reasoning arises from phenomenological considerations where the focus is on gaining an understanding of the client’s perception of his/her situation.

**Interactive reasoning**

Emphasis is on the impact of the disability on the client, and collaboration between the therapist and client to ensure interventions suit the clients’ needs. Knowing how to respond to a situation is a result of the therapist achieving a sense of who the client is and how they understand their situation (Wright St-Clair & Seedhouse, 2005).

**Conditional reasoning**

Practice involves thoughts and actions about the wider context of a situation such as family dynamics/supports, spiritual and cultural aspects (Mitchell & Unsworth, 2005). The therapist imagines a possible future for the client tempered by the clients’ interpretation of the situation, which might be different from that imagined by the therapist.

**Tools** recommended for this quadrant to help engage the client in therapy include: awareness of the personal context of both the client and the therapist; in-depth generic and specific assessment and observation; therapeutic use of self; principles of client centred practice for goal setting and intervention planning; narrative reasoning; and client education and theories of learning.
Quadrant 3: Ethical reasoning
This quadrant ensures that the therapist considers an ethical perspective when reasoning. Knowledge of the bioethical principles appropriate to healthcare is essential for analysing and responding to ethical dilemmas (Kanny & Slater, 2008). Awareness of the cultural context of ethics, and the implications in practice is also important (Barnitt, 1993; Doherty, 2009). There may be no obvious right and wrong answers, the process is both subjective and objective and is reliant on the occupational therapist’s ability to carry out a thorough reasoning process to arrive at the best possible outcome.

Tools recommended to guide therapists include: clinical supervision and peer review; the occupational therapy professional code of ethics; the Ethical Grid (Seedhouse, 2009); relevant policies; and the process of critical reflection.

Quadrant 4: Reflection and learning process
This quadrant assists therapists’ recognition of the importance of reflection and learning in professional practice. Assessing your own thoughts and feelings, and being challenged by others can ensure that learning occurs and changes are made to practice. Reflection is a process where the therapist is self-aware both during and following the event. It involves the process of critical analysis and evaluation and adjusting practice if necessary. Reflection should bring some aspects of practice to a more conscious level (Mattingly & Fleming, 1994; Schon, 1983).

Tools recommended to assist the therapists with these processes include: clinical supervision and peer review; critical self-reflection; frameworks, models and protocols; reflective journals; sharing of ideas; and best practice guidelines.

Summary
The use of the clinical reasoning framework aims to assist the user to make ethical and sound judgements based on theory and engagement of the client in their treatment; it should also encourage the examination of personal theories and their place in practice. The framework should assist the user to communicate dilemmas and decisions to the client, their supervisor and the multi-disciplinary team and promote learning and
development to take place. While this framework is able to be explained from a theoretical basis, it is important to know the realities of its application in practice. The clinical applicability of the clinical reasoning framework was evaluated by four community occupational therapists in physical health practice and is discussed in chapters 5 and 6.
Chapter 4: Methodology

This chapter outlines the methodological approach and design of the study under the following headings: 4.1 Methodology, 4.2 Method, which includes sampling, ethics, data collection and analysis. Lastly, the strategies used to enhance trustworthiness in the research process are discussed in section 4.3.

4.1 Methodology

Qualitative Evaluation and Descriptive Inquiry

The focus of this research is to evaluate the clinical reasoning framework in clinical practice. Therefore qualitative evaluation (Patton, 2002) is appropriate since the main purpose of evaluation research is to document the impact of a newly developed or existing intervention in order to establish its effectiveness, and the impact on the participant’s knowledge and practice (Braveman, Suarez-Balcazar, Kielhofner, & Taylor, 2006). Evaluation research is a type of applied research designed to answer practical real-world problems, broadly speaking it can help to define a problem and explore solutions that may be implemented to solve the problem (Patton, 2008). In this study the problem for community occupational therapists in New Zealand is clinical reasoning. Clinical reasoning is a problem to this group because they often work alone in isolated areas with highly varied caseloads requiring a wide range of knowledge and skills. Complex clinical and social situations add to the challenges for this group. The solution proposed to address this problem is the use of the clinical reasoning framework to support practice.

Formative evaluation, used in this study rather than summative evaluation is the most appropriate of the two evaluation methodologies to use at this early stage of the development of the framework. The purpose of formative evaluation research is to answer questions such as, what is it? How does it work? How might it be implemented? Does it represent what it intends to?

Qualitative descriptive inquiry is commonly used in evaluation research to define and describe what is being evaluated and the process as it happens in action, how it works and how participants react (Braveman et al., 2006; Charles, Eliot, & Louise, 1991). As
in qualitative descriptive inquiry, the findings of formative evaluations are context specific and cannot be generalised beyond the setting in which the evaluation takes place. Since qualitative evaluation encourages an exploratory nature and the discovery of multiple realities and perspectives, flexibility in the approach to data collection is required (Tolich & Davidson, 2003). Moreover, data should be collected in the participants’ natural setting from those who are well positioned and have sufficient experience and knowledge to provide rich descriptive information to answer the research questions (DePoy & Gitlin, 2005).

Qualitative inquiry sits within a constructivist/interpretative paradigm where the assumption is that, to understand human actions and behaviours, we need to understand the meaning and interpretations that people give to their own actions, to the actions of others and to situations and events (Cresswell, 2009; Hansen, 2006). It is concerned with the way that people understand and construct meanings to situations (Cresswell, 2009). Thus, qualitative descriptive inquiry is appropriate for this study, since the perceptions and experiences of therapists are fundamental to uncover their understanding of clinical reasoning and the value that they place on using the clinical reasoning framework. This approach will provide the researcher with a comprehensive and in-depth understanding of the participant’s experience, within the context of their personal and work environment, allowing for perspectives and experiences to be conveyed (Sandelowski, 2000).

Qualitative descriptive inquiry does not generalise the whole population (Davidson & Tolich, 2003) rather, it will provide precise and rich descriptions of how the participants of this study understand clinical reasoning, make decisions and use the clinical reasoning framework within their practice environment. This approach will assist in determining the effects of using the framework on clinical practice, through the exploration and description of the complex issues that both community occupational therapy and clinical reasoning brings to practice.
4.2 Method

Ethics

Ethics approval was gained from the Northern Regional Y Health and Disability Research Ethics Committee and signed off by the employer of each participant. In addition, approval was gained from a kaumatua kaunihera research subcommittee to ensure the study was culturally safe. Access to their support and guidance throughout the duration of the study was granted. Since approval from the Health and Disability Research Ethics Committee was sufficient for this type of research, ethical approval was not required from the Otago Polytechnic committee.

The researcher was guided by the ethical principles discussed by Snook (2003). Two of particular importance to this study is that participation should be voluntary and that confidentiality of all participants should be preserved. Volunteers were given an information sheet (Appendix A), which addressed issues surrounding confidentiality, anonymity and expectations including timeframes around withdrawal following their response to the recruitment advert. Those who participated signed a consent form (Appendix B). Maintaining confidentiality was achievable in this research project. Data collected was kept confidential in a locked drawer and on password protected computer files within the home of the researcher. Pseudonyms were allocated to data, and were used in the transcripts and write up of the findings to maintain confidentiality. Given the size and population of New Zealand “small town” effect (Tolich & Davidson, 1999) was considered, as it may have been easy for readers to identify participants from names of workplace and geographical location. The researcher and supervisor were the only people who had access to the data following transcribing. There were no anticipated risks to participants in terms of safety, physical or psychological distress. All participants were registered occupational therapists, which meant that they had access to regular supervision within their workplace, should it have been required.

The study participants

The number of participants was decided at four, due to time constraints and limitations of the researcher’s experience in analysing large amounts of data. Recruitment to the study was voluntary. Interested therapists were invited to contact the researcher for further information via an advertisement that was placed by the researcher in the New Zealand Association of Occupational Therapy (NZAOT) monthly magazine and
community online special interest group and emailed to the clinical leaders of community occupational therapy teams in the North Island of New Zealand. From the six volunteers four occupational therapists working in community physical health were selected, representing a range of experience to provide a range of perspectives. Occupational therapists, currently in community physical practice ensured that the participants were in a position to provide the information required to answer the research questions as described in chapter one. The aim was to have participants who represented a range of years or experience. The study findings presented in chapter 5 give a brief description of the work setting and particular roles of the participants based on information obtained at the initial interview prior to introducing the framework.

Table 4.1 Participant demographics

<table>
<thead>
<tr>
<th>Participant</th>
<th>Experience in community physical health</th>
<th>Work setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (1.8)</td>
<td>1yr 8mth</td>
<td>Rural community and hospital Sole OT</td>
</tr>
<tr>
<td>B (12)</td>
<td>7yrs 5mths</td>
<td>Urban community Contact with OT’s daily</td>
</tr>
<tr>
<td>C (6)</td>
<td>2 weeks</td>
<td>Rural community and hospital Contact with another OT daily</td>
</tr>
<tr>
<td>D (6)</td>
<td>2 years</td>
<td>Rural community Sole OT</td>
</tr>
</tbody>
</table>

Data collection

The participants were asked to use and then evaluate the clinical reasoning framework in terms of its value to their practice and its potential to be used as a reflection and a supervision tool. The data collection intended to discover the effects of applying a structured framework to practice and to see if there were links between opinions about the framework and level of experience. In addition, the researcher sought to gather information on the participants’ knowledge of clinical reasoning theory to determine if there was any improvement post evaluation. The data collection process is summarised in Table 4.2. and described next.

Data were collected from individuals by the researcher over a period of six weeks via semi structured interviews, e-mail/phone contacts and a short questionnaire.
Interviewing enabled the researcher to gain detailed information through the asking of additional questions for clarification, allowing the participant to get across their views. Summarising and checking understanding with the participant was an additional benefit to interviewing, thus increasing the trustworthiness of the data (Hansen, 2006). Field notes were recorded immediately following the interviews, noting any perceptions and impressions of the interview in terms of dynamics and non-verbal cues, to serve as a reminder of observations, thoughts and feelings. The researcher kept a reflective diary throughout the process as an audit trail of decision-making (Hammel, 2004). Participants were asked to contact the researcher throughout the study as required and to keep a reflective journal to assist with recall and reflection to enhance the accuracy of their feedback (Goodacre, 2006). The participants did not have contact with each other and were not aware of who else was involved in the study.

The initial semi structured interview was completed prior to the participants seeing the clinical reasoning framework. The initial interview established information about each participant’s job role, the client and practice related challenges that they dealt with, a baseline of their knowledge of clinical reasoning and how they made clinical decisions in practice. The clinical reasoning framework (Fig. 3.1 & 3.2) was then given to the participant on an A4 sized laminated card with written instructions for its use in practice (Appendix D) on the flip side of the card and explained verbally by the researcher. The participants were then advised how weekly contact would occur for the duration of the data collection period. Subsequent weekly contacts were via email or phone conversation and served as an on-going reminder to participants to use the framework and gathered data/ reflections on the value of the framework during its use in real-time. An evaluation questionnaire (Appendix E) was completed at week five by the participants and produced descriptive responses of the final evaluation of the framework. This was important preparation for conducting the final interview and the end of week 6 which discussed the participants’ views and evaluation in greater depth and confirmed changes in knowledge and practice as a result of applying a structured approach to practice.

All interviews/phone calls were audio taped then transcribed for analysis, as were the email contacts and the questionnaire. Each participant produced, for data analysis, two 30–45 minute interviews, four contacts (phone/email) plus a completed two-page
questionnaire. Findings from the data are presented in chapter 5 followed by analysis and discussion in chapter 6.

**Table 4.2 Outline of data collection method**

<table>
<thead>
<tr>
<th>Pre exposure to the clinical reasoning framework</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week one</strong></td>
<td>First session: Initial semi structured interview with the individual:</td>
</tr>
<tr>
<td></td>
<td>• to establish baseline understanding of clinical reasoning and how they currently work through the clinical reasoning process</td>
</tr>
<tr>
<td></td>
<td>• to explain the framework and its potential for use in practice as a tool for supervision and reflection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post exposure to the clinical reasoning framework</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weekly</strong></td>
<td>Telephone/email conversation with the individual:</td>
</tr>
<tr>
<td></td>
<td>• to monitor the use of the framework in practice</td>
</tr>
<tr>
<td></td>
<td>• to answer queries, collect ideas for changes to the framework and examples of use</td>
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<tr>
<td></td>
<td>• to verify previous discussions and themes arising</td>
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| **Week five** | Completion of a 2 page questionnaire: |
| | • to focus thinking on the evaluation of the use of the framework in preparation for final interview |

| **Week six** | Final semi structured interview with the individual: |
| | • final evaluation of using the framework and changes to knowledge and practice |
| | • reflective journals will be collected (if permission obtained) |
Data analysis

The method of dealing with the data was iterative/thematic analysis (Hansen, 2006). A basic analysis of data occurred following each data collection stage to provide focus for subsequent contacts, as well as an in depth thematic analysis upon final completion of data. The primary focus of this qualitative descriptive study was to evaluate the clinical reasoning framework when used in community occupational therapy. Guided by the research questions throughout the analysis process, the following areas were explored:

- the participant’s knowledge of clinical reasoning
- opinions on the value of the framework to practice
- the overall effect of applying a structured approach to clinical practice
- link between opinions about the framework and level of experience

Data were read and reread; sections were identified and sorted into similar characteristics based on particular phrases, key words, occurrences and behaviours (sample given of early stage of analysis in Appendix E). Sections were chunked; colour coded, sorted and cross referenced over a period of time which involved reflection and re-examination of the original interview to check that the participant’s opinion was still intact. Themes that emerged from the data are presented in chapter 5.

4.3 Enhancing trustworthiness in the research process

Qualitative research design comes with issues of credibility. The criticism is that qualitative designs produce soft data lacking in rigor. One issue is that of trustworthiness of the methods used to collect and analyse the data (DePoy & Gitlin, 2005). This section will describe the measures that were taken to ensure that the research has credibility and confirmability (Krefting, 1991).

Credibility

_Credibility:_ In qualitative research the data are not a representative of a single truth, but of multiple realities and the lived experience of the participants. In addition it is the presentation of accurate descriptions or interpretations of human experience that people who share those experiences would immediately recognize (Sandelowski, 2000). The
strategies adopted in this study to enhance credibility were member checking and triangulation.

**Member checking:** Aiming to reduce the misinterpretation of the information gained a summarising of the points made and a checking of understanding of perspectives was applied throughout the data collection process. All participants affirmed the accuracy of the transcripts, which were returned prior to analysis. Further checking of understanding occurred during and following the weekly contacts, again serving to enhance the credibility of the data (Conneeley, 2002). A conscious awareness was maintained throughout data collection and analysis stage that the verification of words and checking what had been said by the participant may not have meant that the interpretation by the researcher was the same (Cohn & Lyons, 2003). Additionally, during the proof reading/review process of the thesis chapters, two colleagues who were community occupational therapists commented that they felt that the findings did represent New Zealand community occupational therapy practice in terms of the job roles and challenges.

**Data Triangulation:** This was achieved through the comparison and blending of perspectives from two or more different methods of collection or source (Salminen, Harra & Lautamo, 2006). The validity of the information is increased if all sources are saying the same thing (Davidson & Tolich, 2003). This was achieved through the comparison of the data with the literature review, regarding the practice of community occupational therapy and use of clinical reasoning frameworks. Comparisons were also made between the pieces of data obtained from each participant, to check congruity of understanding and consistency of their own information. Field notes, kept throughout the data collection stage as a reflective diary of observations and hunches made during contact with the participants, was useful to refer back to at the analysis stage to remind and check ideas. The field diary was also used to note down any ideas and feelings that arose throughout the analysis stage of each set of data.

**Confirmability**

In Qualitative research, it is impossible for the researcher not to have some influence and personal beliefs, values, position of power etc. will inevitably shape the research
Confirmability refers to the degree of which the findings are neutral, in that they represent the views of the participants and not of other biases, motivations or perspectives (Krefting, 1991). This is considered of particular importance to this study, because of the relationship between the participants, who are peers of the researcher, and the researcher, who comes with a working knowledge of the issues being studied and the maker of the clinical reasoning framework.

To deal with issues associated with power and to ensure confirmability, being reflexive and collaborating with participants throughout the study was vital. Reflexivity refers to the conscious examination of the position of the researcher within the research and, awareness from the researcher that she is part of the social world that she is investigating. The role of the researcher is significant within the social constructivist paradigm of qualitative research. To be reflexive, is to be subjective and critically self-aware of your influences and thus increasing the trustworthiness of the study (Conneeley, 2002). Familiar with the context and culture of the setting and the participants from professional experience, engagement of critical reflection independently and with the research supervisor was frequent. Throughout the data collection process the researcher understood and shared the participant’s clinical practice difficulties. The risk was that without being self-aware and engaging in reflection, assumptions might have been wrongly made and opinions from participants missed or misunderstood. Regular reflection helped to guide and identify personal views to ensure the findings of the study represented the experiences and perspectives of the participants in an accurate light.

**Issues of Power and Collaboration:** It is suggested that the participants hold power as they are telling their story choosing the information that they disclose (Conneeley, 2002). However, when collecting the data and during analysis the researcher holds power over interpretation of which parts of the story to tell (Conneeley, 2002; Savin-Baden & Fisher, 2002). Potential power issues were acknowledged throughout all stages of the study, the researcher had concerns that the participants would be favourable about the framework out of politeness because the researcher was the creator of the framework and was a peer. Raising this concern at the start of the data collection process, the participants were asked to express their views openly, whether favourable or not, because all of their input was valuable and influenced the improvement and development of the framework.
The researcher’s position as a peer may have affected the degree to which the power was shared within the research process and the degree of accountability to the participant group. Attempts were made to reduce this through briefly explaining to the participants, following the initial interview, of the problems that were faced by the researcher as a clinician that led to the development of the framework. Engaging the participants as a peer and as an equal, who understands their position as a community occupational therapist, rather than a researcher was considered to be beneficial to the data collection process because participants were likely to understand the purpose of the study and feel that some of the difficulties that they face as community occupational therapists were being recognised and considered.

**Summary**

To evaluate the impact of using the clinical reasoning framework in practice, qualitative descriptive inquiry and formative evaluation were selected as appropriate methodologies to provide in-depth accounts of the participants’ views, experiences and processes occurring within the context of community occupational therapy. Patton (2008) supports qualitative descriptive inquiry within evaluation research because, depicting processes requires detailed descriptions of how people engage within the context. The process of clinical reasoning and decision-making is fluid and dynamic so it cannot be fairly summarised on a single rating scale at any one point in time. Furthermore, experience varies for different individuals and their experience needs to be captured in their own words. The methods used for data collection aimed to collect rich and detailed descriptions from the participants in order to answer the overarching research question: What is the value of using the clinical reasoning framework in practice? Chapter 5 presents the findings of the data theme following a process of content analysis. Transferability and dependability of the findings will be discussed in chapter 6.
Chapter 5: Findings

This chapter reports on the study findings in two parts. The first part presents the information collected at the initial interview pre exposure to the clinical reasoning framework, here the participants were asked to discuss the practice and client related challenges that they encountered in their daily work and explain how they worked through processes of clinical reasoning. The second part of this chapter presents the participants evaluation of the clinical reasoning framework after using it over a six week period.

5.1 Pre exposure to the clinical reasoning framework

Prior to presenting the clinical reasoning framework (Fig 3.1) to the participants an initial interview sought to determine the context of their daily work. The interview gathered information on the challenges they confronted working as a community occupational therapist in New Zealand, as well as their current knowledge and process of clinical reasoning. This information adds to the existing body of research about community occupational therapy from a New Zealand perspective and about clinical reasoning of occupational therapists. The importance of completing this exercise for the study was that it helped the participants to consider what they knew about clinical reasoning, how they reasoned and made decisions in their practice. This thinking helped them to make a comparison of their knowledge post exposure to the framework. The findings of this interview are presented below.

The demographic details of the four study participants were presented in Table 4.1. In summary, two of the participants were sole therapists who worked without daily contact from other occupational therapists and three were rurally located. The rural based therapists all spoke of working largely with clients of Māori and Pacific Island decent, as well as with clients who lived in low socio-economic areas where housing stock is old and inaccessible to elderly and disabled people. The urban based therapist described her geographical patch as a mixed socio-economic area, with pockets of both affluence and poverty, no reference was made regarding the ethnic population of the area. All participants identified that functional and environmental assessment and related interventions were their key roles. Service guidelines constrained interventions that
could be provided to some degree, in terms of what was funded and what was seen as essential service provision. Common reasons for referral to community occupational therapy were access problems into the home and bathroom; transfer and mobility problems; and personal care difficulties. One rural therapist articulated that increasingly there are clients who once might have been admitted to rest home care who are now being cared for and staying longer in their own home which added to the complex nature of the community based role:

“There are now many clients who are considered to be hospital level care that are being cared for at home, these clients have high and complex needs, and require complex equipment, education, management and monitoring”

Participant D

The age group of clients for the rural therapists was aged 5+ in contrast to urban therapists, where referrals accepted was for clients over the age of 16. Clients who were under the age of 16 requiring community occupational therapy services in urban areas were referred to a specialist paediatric service. The majority of referrals received by all participants were for clients aged 65+. Common to all was the variety of referrals received, described by one participant as “a real mixed bag of physical health conditions” Participant D. All therapists received referrals for clients presenting with complex long term health conditions such as Multiple Sclerosis, Motor Neuron Disease, Parkinson’s disease and Arthritis, as well as acute health needs and accident related problems. It was noted by two of the therapists that referrals were increasing for clients with dementia and related cognitive issues and for clients with chronic medical health conditions such as diabetes, heart failure and renal failure. One rural therapist felt that working with chronic medical conditions was becoming a major role for community occupational therapy, particularly as poor health and medication management impacts on occupational performance.

The practice related challenges identified by the therapists were: working within the different funding criteria; a lack of time and resources and the overlap of systems and services.

The therapists saw that the challenges of working within the different funding criteria for services, equipment and modifications a constant challenge. Keeping up to date with the services available and changing criteria and then explaining the criteria to clients was seen as an ongoing task. They perceived themselves as gatekeepers to funding and
being the person on the front line dealing with clients who had difficulties understanding or accepting the criteria was sometimes uncomfortable. All participants agreed that successfully communicating the service entry and funding criteria to clients was one of the key ways to ensure that processes went smoothly; this involved building relationships with clients and family, explaining criteria clearly and in such a way that clients can understand. Barriers to services, delays in receiving funding and managing risks with clients in the interim were huge challenges to the community occupational therapists.

“You’ve got to work within the funding criteria it’s quite challenging explaining to patients why we have to work within these criteria. You can understand why sometimes they don’t understand and you can kind of see their point of view; you’re the person on the front line to have to deal with it, which can be very challenging” Participant A

“The role puts me in-between the funder and the client; they both have different sets of expectations. The biggest challenge in my job is matching up those and communicating between [the] two parties. It’s mainly about communicating, there’s lot of translation between the funders language and a normal person’s language. The challenge for me is to get information really clearly to people” Participant D

All therapists expressed frustrations at the lack of time and resources to do their work to the required standard. They were overwhelmed at times by the generalist nature of the role, high volumes of referrals and waiting lists. Balancing the rehabilitation needs of relatively stable clients with the acute safety concerns of others was ethically challenging for the therapists. One therapist stated that she had a defined rehabilitation component to her work however she felt that it was not always possible to do any rehabilitation thoroughly due to high workloads, waiting lists and time/resource restrictions. Additionally, the subsequent loss of skills to perform specialist rehabilitation because of the generalist nature of her work was a concern to her.

“Sometimes you feel like... I’ve got this person and I want to see them every week, and I’m going to do it, and I’m not going to book other people in. I’m not going to pick up any new people until I’ve got the time to do it. But then other times, people on the [waiting] list need to take priority because maybe they’ve got more urgent needs, issues that we need to prioritise them higher for.
Someone that just needs weekly rehab on their arm or with their cognition, maybe they have to take a backseat or maybe they have to be discharged earlier than we would like because of the matters from the rest of the case loads”

Participant B

Working alone was a challenge to those who were sole therapists, even those who did work alongside other occupational therapists felt that the role was quite isolating. Those who worked as sole therapists had difficulties describing their unique occupational therapy perspective and identifying what made them different to the other professionals within the multidisciplinary team:

“It’s a difficult question really, I think the way we communicate and the way we observe is different. That’s different, core to OT than to others. I don’t know what the OT core skills are apart from that. I know people talk about them a lot” Participant D

In addition to keeping up with changes of funding criteria and the lack of time and resources the therapists described difficulties keeping up with the constant change and overlap of systems and processes. Participants indicated that there is a recent drive within the health system towards constantly changing procedures, ways of working and service criteria; some of which overlapped. The drive toward quality improvement, certification and justification for costs of health care has increased in recent years along with the volume of indirect client work, impacting on therapists’ ways of working and direct client contact.

“A very small proportion of our work is actually talking to the clients”

Participant A

Occupational therapy services within the same organisation appeared to have different but overlapping roles making it difficult for referrers to know which service to refer to; often leading to a double up of referrals to more than one service. Therapists were also at times confused by the differences between the different services; the consequence was that clients were over assessed often at the expense of rehabilitation time. The urban based therapist described how the nature of her role is impacted by another occupational therapy service within the same district health board:

“There’s a whole other community health service which has a lot of OTs, they deal predominately with the equipment side of things, housing mods. I mean we
do equipment housing mods and wheelchair seating in our team, as well as the rehab and the care for the elderly and MND. We’ll do equipment and mods as they have a huge waiting list. I don’t know how long it is now, maybe four or five month’s long waiting list. And we try not to have a wait list, because we need to be sort of more reactive to people going home. So we’re two similar-ish teams, but I feel we’ve got different outlooks. They wouldn’t pick up any rehab side of things; they’re not a rehab team, the other community team. So there are some referrals we could maybe pass over in theory if they didn’t have such a long wait list” Participant B

Another explained that the involvement of and sometimes overlap of services, both internal and external to her district health board also impacted on her clients and how she was able to work with her clients:

“If a client doesn’t quite fit within a particular realm and if there are two organisations [or services] working with a specific client that can make things quite challenging because they would each work a different way with the client” Participant C

The client related challenges described by the therapists were the: generalist nature and scope of the role and the expectations of clients and their families.

The generalist nature and scope of the role was both challenging and daunting, described by one therapist “some referrals we receive are off the wall”. Community occupational therapy referrals were often received for clients who had problems and/or situations that were very complex and often there was no appropriate service to best deal with them:

“Quite often we may not feel particularly equipped in terms of our training or knowledge or experience to feel entirely comfortable dealing with some of the things we go out and see. So that can be quite a challenge” Participant B

Complex housing and social environments make community working complex, as does working with clients who have complex progressive neurological conditions; particularly when there are both physical and cognitive changes. Some therapists felt that the generalist role of community occupational therapy compromised their skills and
abilities. Frequently, they would find themselves on steep learning curves and at times feeling ethically challenged that they could only offer clients a minimal service; either because they lacked specialist knowledge and skills, or were constrained by time, resources and funding:

“Because you need to be more generalised in your practice it’s sort of a big learning area….. You’re always aware, there’s maybe plenty that in an ideal world an OT would do or could do for people, but when you’re dealing with referrals coming in and people waiting on waitlists, in reality, maybe you’ve just not got time to do for people what you would read about in textbooks” Participant B

“sometimes one of us will go out and just have a look and do the best we can and sort of acknowledge that we haven’t got maybe the knowledge and skills to do maybe what was entirely needed” Participant B

The expectations and attitudes of clients and their families, not necessarily toward the therapist but to the system were also identified by all as challenges. Managing the expectations of what equipment, modifications and services are considered to be essential by the funders along with the expectations of the client and their family members occurred almost daily. Related to the findings presented earlier regarding the difficulties of working within the funding criteria, the participants identified that a big part of their role is communicating the criteria in a way that it makes sense to the client and their families. One therapist explained that clients frequently find the correspondence from the funders too confusing or ambiguous, particularly if they have cognitive and/or English language difficulties. This challenge added extra time and a counselling role to their work, as well as an advocate role when having to link clients up with appropriate supports to assist them with finance related paperwork or if help is required to source alternative funding/solutions if government funding/services have been declined or delayed.

Therapists talked about the difficulties they faced when client and family members placed demands on them that they were unable to meet. Sometimes expectations are raised by clients and/or families about what they should be entitled to, or solutions to problems have been decided by the client and/or family member before the assessment
process has started. Dealing with these situations is extremely challenging for community occupational therapists:

“[a client related challenge is working with] Clients or grown up children of clients who have already decided, I think most of the people I get referrals for have already decided what the solution is before I even meet them and so they can be disappointed quietly or disappointed very loudly and aggressively if I don’t see that point of view, or if there’s a different point of view. You’ve got to be pretty assertive really” Participant D

“Some people have an expectation because they’ve been told by a friend or family member that this is what condition I’ve got, so maybe you can get that, but they don’t have the attitude that I will get it for them. Whereas some other people, you turn up and they have, all through their life, you can see, they’ve had this attitude where I’ve been owed, I’m owed something, they might not have heard of the things that are available, so they don’t have any expectation about what equipment they can get or what funding they can get. They just know they’re owed something, and you turn up, so they want what they think you can give them” Participant A

Building good relationships with clients and their families was perceived by all therapists to be essential for ensuring a good outcome for the client and the planned occupational therapy intervention. Matching up differing ideas and expectations of family members was a situation that participants encountered and often they played a counsellor role or allocated a family spokesperson to deal with and work though people’s differing perspectives. In addition, participants spoke of some clients’ expectations of what occupational therapy offered in terms of the treatment that should be offered and therapists were sometimes unsure if they could meet their client’s expectations:

“My client who had her arm amputated, she’d been online and read all sorts of things about OTs in America and what they do for someone with their arm amputated. So that was quite daunting going in as an OT, seeing someone with an arm amputation and feeling like this is what an OT should do, because the client expectations in that case were quite higher of what I feel my knowledge could offer, would automatically be because I’m an OT” Participant B
The therapists each gave a description of what clinical reasoning meant to them however they struggled to name or describe the types of clinical reasoning or theories that relate to clinical reasoning from the occupational therapy literature or their training. The recently graduated therapist explained her understanding of the significance of clinical reasoning to her practice based on her recent undergraduate training:

“When I started really practicing I was like oh God, clinical reasoning, it’s just like, something you were forced to do in university just like looking up models and being able to talk about theories and all that kind of thing. But they didn’t really emphasise, and I think maybe they should’ve done that a bit more in placement as well, that it does actually happen all the time and you are doing it all the time because you kind of have to” Participant A

Participants did not use a specific model or framework to guide their clinical reasoning. They explained that past experience and knowledge of working with clients with similar diagnosis and clinical supervision guided their clinical reasoning and decisions. Informal discussions with colleagues, as available, were also a useful resource to the participants. The use of books and internet was mentioned by the participant who was very new to the field of community practice and by the experienced participant who had a particularly complex case to deal with. Participants described how they used their assessments and therapist/client goals to focus their interventions; locally devised assessment tools were mostly used, some standardised assessments were available and were used occasionally. No therapist admitted to using evidence based practice or best practice guidelines as a rule, one participant explained that although she didn’t use evidence based practice she saw that it had value:

“I think it’s important to look at evidence-based practice, because that’s what keeps you thinking, what keeps you questioning – I don’t [use it], not yet. I suppose, maybe, I haven’t really actively looked at it” Participant A

All therapists acknowledged that the client and their family played a significant role in therapy and the clinical reasoning process and were best placed to assist with focusing therapy interventions and setting occupational therapy goals. One experienced therapist gave an account of how she dealt with a particular complex case, a condition that she had no experience working with. Identifying that the client was the expert had played a major role in finding her own solutions to her problems, the following quote sums up
how the therapist recognised that she had learnt a great deal from her client and would use this new knowledge in future similar situations:

“Where I really struggled was trying to make it [the rehab programme] graded, and to know what I was aiming for was realistic and the actual limb that she had, had to be able to do those things. I struggled with finding a start point and what to work towards. So I drew a blank. I did make some efforts, but yeah, to be honest for all my worry and effort and stress over it, it all sort of worked a natural course with the actual patient, she went out there and she got information. She found out about stuff and then told me, and I thought well that’s good and I bought some books as a result of it and yeah, I’ve looked at some stuff online that she looked at. So really, she taught me as much as anything and then I’ve passed that information on to the limb centre because they didn’t know. So yeah, we all feel we learned” Participant B
5.2 Post exposure to the clinical reasoning framework

Analysis of the data gathered from the participants during the six weeks post exposure to the framework resulted in three themes regarding its value to practice. The themes: 1, a useful tool to structure reflection and clinical supervision; 2, positive benefits to practice and clients and 3, improved understanding and communication of clinical reasoning are presented next.

Theme 1: A useful tool for structuring reflection and clinical supervision

All therapists stated that they used the clinical reasoning framework as a critical reflection tool following an interaction with a client. They suggested that the framework also had the potential to improve their supervision sessions (as both a supervisee and supervisor) to provide greater structure to problem identification and problem solving:

“as a supervision tool it [the framework] will be useful to evaluate work, point out thinking and expand thinking, as a reflection tool I have found it [the framework] helpful to review complex cases” Participant A

“I used it [the framework] more as a reflection tool, but I think I easily could use it as part of supervision. I think I just haven’t yet but I think it would be very useful to do that….personally I find reflective practice quite difficult and I think this [the framework] will really help me in reflecting on things. It is a good framework for that. It’s very clear and concise and because it’s partitioned into areas, things can flow” Participant B

“I've used the framework to reflect on particular cases; it's been useful to structure that reflection and to identify components of my rationale” Participant D

Two sub-themes emerged from Theme 1 that explains in greater detail the benefits that occurred in the participants’ clinical practice as a result of using the clinical reasoning framework to structure clinical reflection. The two sub-themes were related to making practice issues more explicit and finding gaps in knowledge.

1a) Making clinical issues more explicit helped users to consider different perspectives

The therapists proposed that when using the framework to reflect back on their client intervention it helped them to break information and clinical problems down into
manageable chunks. Regardless of their experience level, therapists agreed that breaking down problems and organising their thoughts helped them to separate issues and focus on each a little bit differently:

“It [the framework] has been useful to make explicit those aspects of reasoning which I had taken for granted/ used unconsciously” Participant D

“I have used it [the framework] with the ones [clients] that I’ve found I have had more of a sort of dilemma with on how to treat them or a problem that I wasn’t sure how to approach” Participant B

The rurally based new graduate who works as a sole therapist gave this account:

“I haven’t been practising very long and I don’t have lots of experience to draw from. On the drive back from the patient’s house I’m thinking what am I going to do? I understand what the issues are but I have no idea how I’m going to address these issues. And then I look at the framework and think well, I suppose it’s like starting at the basics. You go to a patient’s place, you listen to the story, you get all the issues kind of [thrown] at you and then your head’s full of everything and you think right well why don’t we start at the beginning, who am I dealing with? What’s the situation here? And then you can work your way through the framework and that kind of breaks everything down a bit for you and you can look at it [the situation] a bit more clearly” Participant A

All agreed that the clarity gained when using the framework to make clinical problems more explicit added value to their interventions. This was because they had started to consider a wider scope to their practice and explore problems with clients in greater depth and detail at the assessment stage, resulting in them thinking more broadly and clearly when planning and problem solving:

“It’s [the framework] definitely clarified interventions for me, or strategies that I want to use in my practice. I’m now able to develop different thinking around complex cases. It helps me come up with solutions to blocks that I’m presented with and look at things from a different perspective, also backs up what I’m thinking as well. I am now more comfortable with my instincts in practice too” Participant A
Therapists gave examples of when they had used the framework to reflect back on clinical situations throughout the data collection process. They noted that the prompt questions and the toolbox had encouraged them to consider different perspectives on situations which otherwise they would have not considered. The following quotes sum up how the framework had encouraged the participants to think outside of their usual practice habits and consider new and different perspectives:

“I went to review my patient with Multiple Sclerosis, who I know well and despite my initial feelings that I may never be able to solve some of her issues when I started going through the framework and considering the ethical quadrant I felt the right thing to do was try something I had not done before” 
Participant B

“Ethically I’m never sure where to draw the line in my responsibility for that [hoisting]. I think the way we’ve left it is that well you know how to do it now….and reflecting [back] on it now, maybe an[other] approach might be to go rather than this is the hoist, this is how it’s used but go in from a different angle and knowing the reasons why for doing it [the importance of using the hoist]...” 
Participant D

“When assessing a client, who I have seen before but didn’t know well, there were significant environmental problems caused by her husband moving her to a fairly unsuitable property (in my OT view). I arranged to talk to the client’s husband alone about her [the client’s] current and long term needs in terms of housing and between seeing the client and the husband I looked at the framework. The interactive/conditional reasoning quadrant seemed relevant. I reflected on something she had said about although she knew there were issues with the new house, she and her husband didn’t want to move again, even if more suitable. That really helped me get a balance when talking to her husband between what I thought she needed from an OT point, and what their client/carer perspective/wishes were. The procedural quad guided me when discussing environmental needs with the client’s husband, reflecting on what I know of the condition and other MS clients’ needs” Participant B
1b) Identified gaps in knowledge and areas for professional/service development

The participants explained how using the framework had helped them to identify areas where their knowledge and skills needed to be improved, and where the gaps in service delivery were. One therapist expressed that prior to using the framework she hadn’t really reflected on how she presents information to clients and how information might be received by different family members and/or carers. As a result of using the framework she has now considered the importance of how information and education is delivered and identified that a specific plan and preparation is required when carrying out any client and carer education sessions.

Another participant explained that prior to using the framework she had thought of her role as rather narrow in focus and some treatment interventions as add-on’s or luxuries if there was time. Now, having a broader view of her role and from gaining new knowledge of the multi-facets of clinical reasoning she realises that these interventions are within her role and is now considering ways of incorporating them into her practice; particularly for when she supervises students. All therapists agreed that the clinical reasoning framework was particularly useful to help identify what they might do next time in a similar situation and the areas that they needed to focus more on for the client and for their professional development:

“I find it hard work - reasoning and reflecting in general. The framework has shown me how much there is to consider in clinical reasoning and that I was probably quite narrow in my focus before” Participant B

Theme 2: Positive benefits to practice and clients as a result of a systematic way of working

There was agreement from all participants that the use of the clinical reasoning framework had produced positive outcomes for both the client and their interventions. In particular, when working with complex cases the framework had given them a systematic way of working and thinking problems through:

“It [the framework] helped with certain complex kinds of cases. I was able to sort out my own thoughts and put them in a certain way so that I could come up with better intervention plans and ideas, and I was more confident in my own practise” Participant A
The consensus was that the clinical reasoning framework covered all of the aspects of clinical reasoning; some commented that they had used it as a checklist to ensure that all areas of practice were considered within the different facets of clinical reasoning. In general the more they used and looked at the framework the easier they found it to visualise and memorise, and by the end of the six week period they were visualising the framework during visits and checking things off in their mind, rather than only referring to it post visit. Only the therapist who was very new to community practice actively used the framework prior to client visits; highlighting her inexperience, the rest spoke of using the framework retrospectively. Interestingly, this therapist who was new in her role found articulating her clinical reasoning extremely difficult, despite being a new graduate:

“I read it before I went to see a client, in the beginning, and so I had a few questions in my mind before I went to see the client, and after as well. So especially the reflective process, how I worked with that client, kind of what interventions would be required and why, short term and long term” Participant C

As a result of using the framework the therapists had started to think more about the theories, frames of reference and practice models that underpin their practice and clinical reasoning. They also remarked how easy the framework was to use and its rapid positive effect:

“It brings together many theoretical perspectives into a usable form; this is the first time I have seen this achieved” Participant D

**Theme 3: Improved understanding and communication of clinical reasoning**

The overall feedback was that using the clinical reasoning framework had vastly increased awareness of the different aspect of clinical reasoning; clinical reasoning processes and connection of theory with practice:

“Yeah, yeah it really has [increased my awareness], hugely. It got me thinking about the background stuff that doesn’t always come to the fore, the frames of references and all that basic foundation theory that we tend to take for granted and just draw on without actively thinking about it” Participant B
The new graduate participant summed up how her knowledge of clinical reasoning has changed and how her practice has benefited since participating in the study and using the framework:

“I have to say this is probably the first time clinical reasoning has actually become like a real thing to me. In university, we did a paper in clinical reasoning but looking back on it now I didn’t understand it completely and maybe that’s because I wasn’t practising, and that could have been because of the tools that we used then. I didn’t see the connection. Whereas with this tool you can see the connection between what I practise and the clinical reasoning because the questions that it asks relate to my practise and it has words I’m familiar with. And the toolboxes and the questions, it’s all relevant to my own practise so I can see the connection which is very useful. Also it [the framework] kind of takes the unknown aspect away from it so I’m not afraid to use it or it’s not a major thing to think about clinical reasoning anymore; you can see how it becomes natural” Participant A

It is suggested that the clinical reasoning framework helped users to realise the full extensive nature of clinical reasoning and to become more consciously aware of their thinking and the knowledge they require to support their thinking. Additionally, it became apparent that the clarity of thinking brought about an improved ability to communicate clinical reasoning to clients and colleagues. Knowledge of their clinical reasoning processes gave the therapists confidence when explaining their profession specific uniqueness and clinical reasoning to non-occupational therapists.

**Final evaluation of the clinical reasoning framework**

At the final interview the participants recommended that the clinical reasoning framework was a useful practice tool for community occupational therapists, regardless of their experience but particularly for those working in isolated positions. Student therapists were considered to benefit from using the framework to assist with the development of their knowledge and use of clinical reasoning in practice:

“It’s [the framework] very clear and concise and because it’s partitioned into areas, things can flow because they [students] haven’t got a whole lot of clinical knowledge behind them it would help so that you can actually prompt them to
**think about things a bit more clinically minded and in a critical sense**”

*Participant C*

Providing feedback of her education on clinical reasoning as an undergraduate one participant felt that this kind of tool would have helped her understanding:

“I think if I had this kind of tool to look at when I was a student it would trigger certain things off for me then, and that’s when you should start to think about it [as a student]. You should be more aware of that kind of thinking then so it’s not a surprise to you, or a bit of a shock when you go into practice suddenly and then you’re kind of confronted with this stuff” *Participant A*

There was a suggestion that the framework might be applicable for occupational therapists working in other practice areas as there is no specific terminology that restricts it to physical community practice. Overall the framework was considered easy to use and clear to understand. In particular it was agreed that all of the elements of clinical reasoning that apply to community occupational therapy were represented. The prompt questions and the toolbox were considered to be very relevant and easy to follow which helped the therapists feel comfortable using it. Generally the terminology adopted was understandable and pertinent to practice. Comments were made regarding the potential confusion that the arrows in the middle of the framework might create. They were considered to be distracting; unintentionally suggesting that the user should only use the quadrants one at a time and in a clockwork sequence. Formatting errors were identified by one participant and another requested that a recommendation/example be given alongside ‘reflective models’ in the toolbox to guide the user towards finding a suitable reflection tool.

Changes that were made to the framework and the toolbox following the feedback can be seen in (Fig 5.1 and 5.2). Aside from formatting corrections, the main change to the framework was the removal of the arrows in the centre of the circle as this created confusion to the user. The wording of a prompt question in the Ethical reasoning quadrants was changed from *how can we compromise to ensure safety?* To *how can safety be ensured?*, because this was thought to me a more definitive question. Changes to the tool box were: the addition of the Gibb’s cycle as an example of a reflection
model to the learning & reflection process box and the addition of ethical frameworks, with the ethical grid as an example in the ethical reasoning box.

Finally the therapists were asked if they were likely to continue using the framework, all participants gave an affirmative response:

“Yeah, I think even if I don’t always look at the framework all the time I think it’s always there and it provides you with something to fall back on if you are struggling with certain things. I think it’s always in the back of my mind now” Participant A

“I’m going to use it in supervision because I think it’s really good” Participant B

“I will use it more once I get settled into work” Participant C

“I will continue using it yeah. I’ll have it stuck on my wall” Participant D

Summary

The analysed findings, pre and post exposure to the clinical reasoning framework have been presented. The information gained from the pre exposure interview was important to determine the practice of community occupational therapy in the North Island of New Zealand and the participants’ knowledge of clinical reasoning. The evaluation of the clinical reasoning framework has identified that there are advantages to using a structured approach to practice. The findings confirm that regardless of experience there will always be challenges in community occupational therapy because of the complexities of practice. Following six weeks of applying the clinical reasoning framework to their practice, the participants concluded that there was indeed value gained to both clients of occupational therapy services and professional practice. The final chapter will analyse and synthesise the study finding with pre-existing ideas and knowledge from the literature; discussing patterns of meaning and make recommendations for future studies and the implementation of the framework into therapists practice.
Fig 5.1 the Clinical Reasoning Framework: (Revised Post Evaluation)
<table>
<thead>
<tr>
<th>Scientific/ procedural reasoning</th>
<th>Interactive/conditional reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>• OT process, theories, frames of reference, models and approaches</td>
<td>• Assessment/observation</td>
</tr>
<tr>
<td>• Relevant protocols and guidelines</td>
<td>• Therapeutic use of self</td>
</tr>
<tr>
<td>• Contextual awareness of the practice setting (pragmatic reasoning)</td>
<td>• Client-centred goal setting/ interventions</td>
</tr>
<tr>
<td>• Evidence-Based Practice</td>
<td>• Narrative reasoning/story telling</td>
</tr>
<tr>
<td>• Problem identification and solving process</td>
<td>• Education: visual feedback/role play/modelling</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Learning &amp; reflection process</th>
<th>Ethical reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Clinical supervision</td>
<td>• Moral principles: individual/society/health</td>
</tr>
<tr>
<td>• Peer review</td>
<td>• Professional code of ethics/conduct</td>
</tr>
<tr>
<td>• Reflection models i.e. Gibbs cycle</td>
<td>• Clinical supervision and peer review</td>
</tr>
<tr>
<td>• Reflective journals</td>
<td>• Ethical frameworks i.e. the ethical grid</td>
</tr>
<tr>
<td>• Sharing of ideas and best practice</td>
<td>• Client-centred/reflective practice</td>
</tr>
</tbody>
</table>

**Fig 5.2 the Clinical Reasoning Framework Toolbox (Revised Post Evaluation)**
Chapter 6: Discussion

This final chapter discusses the issues that have arisen from the study findings presented in chapter 5. The chief focus of this study was to evaluate the value of the clinical reasoning framework when used in community occupational therapy practice. To ground the framework in the context of community practice in New Zealand, the discussion begins with the findings pre and post evaluation which uncovered thought-provoking material regarding the challenges faced by community therapists and the possible origins of these challenges. The discussion then offers the value of the clinical reasoning framework to assist community therapists to work through these practice challenges.

The chapter will conclude with reflections on the research methodology and final recommendations for the application of the framework in practice.

6.1 What does it mean to be a community occupational therapist in New Zealand?

The description of community occupational therapy, specifically in New Zealand, given in the overview chapter is supported by the study findings. The work of the community occupational therapists appears to encompass a wide range of roles. Common job roles of the community occupational therapist aside from clinician were consultant and educator. These roles are consistent with the findings of other researchers (Lemorie & Paul, 2001; Lysack, Stadnyk, Paterson, McLeod, & Krefting, 1995; Quick, Harman, Morgan, & Stagnitti, 2010). Additional job roles identified, similar to several identified by Mitchell and Unsworth (2004) were advisor and interpreter of different disability funding criteria, specialist assessor for disability funding, clinical governance, counsellor, and advocate. Types of intervention included functional assessments, pressure care and postural management, home modifications, wheelchair and adaptive equipment, long term condition management and some but very little intense home based rehabilitation. It is anticipated that the focus on home rehabilitation will increase for community occupational therapists in New Zealand as criteria for funding home based care and home modifications becomes more restrictive, the elderly population grows bigger and shorter hospital stays are encouraged. If this is to be the case then the future challenge for community occupational therapists will be to move away from their traditional focus on compensatory and adaptive frames of reference and to work with a
greater rehabilitation focus. This shift in focus will have implications for how services are staffed and delivered. Clients referred to community occupational therapy were predominantly elderly but paediatric referrals were accepted rurally. Clients with long term neurological, respiratory and muscular skeletal conditions were commonly seen, as were those requiring brief interventions. Consistent with findings of Scriven and Atwal (2004), referrals for clients who traditionally might have been cared for in a rest home rather than remaining at home were increasing, for example clients with late stage dementia and advanced chronic multiple medical conditions. The shift towards caring for these clients’ at home rather than in a residential setting may be a result of improvements in primary care funding. This finding of therapist being more involved with clients during the later stage of the disease process is in contrast to some Australian studies (Mitchell & Unsworth, 2004; Quick et al., 2010), where occupational therapists are increasingly involved in the planned health promotion of ‘at risk’ clients aimed at prevention and early intervention.

Service delivery of community services in New Zealand is Ministry of Health funded via contracts for specific intervention types that are managed via district health boards. Occupational therapists work within community services alongside other health professionals, usually social workers, physiotherapists and district nurses from community health bases and rural hospitals. Participants expressed some frustration that the service delivery trends of other internal and external services directly impacted on them affecting how they planned and prioritised their work. The impacts of continuously changing and remodelling of services would benefit from further research to determine the effects on therapists and clients. Are community occupational therapists taking the lead and shaping their practice/service delivery or are they only reacting and adjusting to the trends of others?

The therapists in the present study described practice related challenges consistent with findings from (Mitchell & Unsworth, 2004; Moore, Cruikshank, & Haas, 2006; Peterson et al., 2003; Quick et al., 2010). These include travel and coverage of a fairly large geographical area, and working within the client’s home where living situations vary greatly. Characteristics that rural therapists tended to see more than urban therapists were clients with multiple chronic conditions, clients from a low socioeconomic background and communities that were predominantly Maori and Pacific Islander.
Further practice related challenges identified by the community occupational therapists were the high volume and diversity of their caseloads, time spent on administration tasks, high volume of paperwork and quality improvement activities, constant changes to funding availability and processes and professional isolation. Professional isolation is also a challenge identified in other studies related to community working (Holmes & Scaffa, 2009; Peterson et al., 2003). The findings of these studies, inclusive of the present one, suggest that having infrequent contact with other occupational therapists has implications for safe practice knowledge and skills and the identity of what it means to be an occupational therapist. This is likely to be because of the limited peer contact, professional supervision and opportunities for peer modelling, discussions and critical reflective practice. Quick et al., (2010) reported the increase of new graduates entering their career into community occupational therapy. Indeed, one of the four therapists in the present study was a new graduate who worked in a sole position rurally. If more new graduates are coming into community practice then leaders and managers should carefully consider the implications of this to the therapist, the clients of the service and the profession. Community occupational therapists studied by Ramsey (2011) also identified with feeling professionally isolated as a result of being away from professional support systems and urged community occupational therapists to seek out a mentor to help and guide practice (Ramsey, 2011).

In the present study therapists identified challenges related to working with families who become over involved in client’s treatment, have unrealistic expectations of therapy, and with unfamiliar complex situations or medical conditions. They described feeling overwhelmed at times in these clinical situations because they were unsure of what they could offer or do to/for the client, or what their role was in certain situations. The community occupational therapists studied by Ramsey (2011) described similar challenges.

Mitchel and Unsworth (2004) indicate that the practice related issues described by the community occupational therapists can limit therapists’ available time and ability to seek new information and deepen their clinical knowledge. These effects on practice were noticeable in the findings of the present study as the participants exposed a lack of confidence and knowledge, regarding their unique role as an occupational therapist and theoretical/philosophical roots of the profession.
6.2 Possible origins of the practice challenges that influence clinical reasoning

Clinical reasoning arises from multiple sources (Mattingly & Fleming, 1994; Schell & Cervero, 1993) including previous experience (Chaffey et al., 2010; Gibson et al., 2000), theoretical knowledge (Burke, 2001; Higgs & Titchen, 1995; McColl, 1998) and research evidence (Parkinson et al., 2011). In line with other community occupational therapy studies the therapists in the present study struggled to articulate theory and research evidence to support their practice. Relying mainly on experience (some of which was very limited) to guide their clinical reasoning. In-house developed assessment tools were adopted and informal theories developed over the course of their practice strongly guided their interventions.

The uptake of integrating relevant theory and/or research into the therapists’ practice was scarce. This is not surprising as other studies have arrived at the same conclusion (Elliott, Velde, & Wittman, 2002; Munroe, 1996; O’Neal et al., 2007; Steward, 1996). It is claimed that theory improves a therapist’s effectiveness by facilitating the ability to make professional decisions and enhance clinical reasoning abilities (Reed & Sanderson, 1999). Mattingly and Fleming (1994) found that occupational therapists placed little if any value on the role of theory in practice; based on the findings of the present study it appears little has changed in almost 20 years. While therapists acknowledge the importance of theory to the profession (Creek, 2002; Forsyth, Summerfield Mann, & Kielhofner, 2005) they struggle with the relevance and implementation of it into their practice (Forsyth & Hamilton, 2008) which is consistent with the present study findings. The implementation of the clinical reasoning framework served as a reminder of the importance of the theoretical underpinning of practice. The prompt questions and tool box of the framework facilitated understanding of the theory behind clinical problems. In particular, knowledge was gained in terms of the different elements of clinical reasoning. Once aware and understood, the relevance of theory to clinical practice became clearer.

Not incorporating theory into practice means that therapists are only relying on practice experience and technical skills which has implications for the quality of occupational therapy, standards of proficiency of the therapist and the continuation of the profession.
All therapists in the present study admitted that experience is what they rely on predominantly to guide clinical reasoning which is similar to other findings (Gibson et al., 2000; Kuipers & Grice, 2009a). The reliance on experience is a concern because the therapists who were in isolated positions only received minimal contact from other occupational therapists with greater experience, and the two ‘new to community’ therapists and the new graduate therapist had limited relevant experience to draw upon. The findings of the present study indicate that the clinical reasoning framework can be a valuable tool to therapists, particularly those who work in isolated positions, to facilitate reflection of their practice habits and personal theories.

The participants in the present study were not aware of the three tracks of reasoning described by Fleming, nor were they able to name the different types of clinical reasoning, or link theories of clinical reasoning to their practice. There was a clear gap between their practice and knowledge of clinical reasoning theory, particularly surprising as one participant was a recent graduate. Congruent with the findings of (Hagedorn, 1996) none of the participants used a model or framework to direct and guide their clinical reasoning. Similar to the findings of Elliott et al. (2002) the lack of integration of theory into practice appeared to have some links back to undergraduate training, particularly evident in the discussions with the new graduate who clearly articulated her poor understanding of the value of the relationship between theory and practice. Research findings of Storch and Eskow (1995) argue that well developed training at under and post graduate level as well as professional development opportunities are essential to develop and cement theory application skills in therapists.

Wimpenny, Forsyth, Jones, Evans and Colley (2006) studied the use of group reflection to bridge the theory and practice gap. The majority of participants in that study worked as sole occupational therapists within a multidisciplinary team and did not have frequent opportunities to develop practice with other occupational therapists; the findings raised issues around the therapists’ professional responsibilities and use of personal theories to guide practice. Regular clinical supervision and guided critical reflection is considered to be an efficient way to support therapists towards adopting a theory driven and evidenced based approach to their practice (Wimpenny, Forsyth, Jones, Evans, & Colley, 2006). The evaluation of the framework found that it has the potential to provide a structured supervision session towards making clinical reasoning more explicit. That said clinical supervision and peer support is not always readily available to community occupational therapists. The framework was considered a valuable
reflection tool that addressed professional responsibilities, the use of personal theories, and initiated clearer theory driven clinical reasoning – essential for lone working therapists.

Building relationships with clients and families was considered to be important by all participants to effective clinical reasoning. This supports the findings of other clinical reasoning studies (Kuipers & Grice, 2009a; Munroe, 1996; Paddy, 1997) and is said to be because the practice takes place in the client’s home where the therapist is a visitor. The interactive reasoning and the ethical reasoning quadrant of the framework assisted the present study participants to consider how they engaged clients and families in client centred therapy.

Surprisingly, the findings of the present study suggest that the therapists found difficulties with maintaining an occupational perspective to their role; in fact it was of concern that one therapist was unable to articulate the core skills of occupational therapy and was unsure of the unique aspect of the role of the occupational therapist within the multidisciplinary team. This may relate to the participants predominant bottom up approach to clinical reasoning, described by (Fisher, 1998) and similar to findings of Munroe (1996). In other words participants used reasoning that primarily focused on the medical condition of the patient and the occupational dysfunction that is likely to occur as a result of that medical condition. The contrast, in keeping with the profession’s philosophy of health and occupation is a top down approach to reasoning where occupation is the therapist’s primary focus. With this approach the occupational dysfunction is first established and then the cause of this problem is explored. Clinical reasoning is focused on the client’s abilities and goals rather than their impairment. A greater effort towards adopting this top down approach to reasoning may help occupational therapists feel more confident of their role and unique perspective (Wilding & Whiteford, 2007). The clinical reasoning framework could help bridge the gap of the theories of occupation and health into practice as it is easy to implement.

One participant was unsure of what she could offer or do for the client with the upper limb amputation because this was a completely new situation to her. This therapist expressed that because of the wide scope of referrals received she often felt ill equipped with her training/knowledge/experience to deal with some problems that she encountered. These findings link to the concept of role stress (Hughes, 2001) which arises as a consequence of the ambiguity, role incompatibility and role conflict.
Strategies suggested to overcome role stress are accessing opportunities and support to increase the use of occupational therapy language and theory, receiving additional supervision and working more closely with other occupational therapists. When using the clinical reasoning framework the study participants became more aware of the need to increase the use of occupational therapy theory, a natural fall out from increasing the use of theory in practice should see an increase in the use of occupational therapy language, which is likely to minimise the impacts of role stress.

The lack of confidence and knowledge displayed by the study participants with regard to the occupational therapy domain of concern, their role in unfamiliar clinical situations and the theory-practice gap all have consequences for clinical reasoning (Gibson et al., 2000; Paddy, 1997). Perhaps the lack of confidence and knowledge in these essential areas are the effects of the practice related challenges that come with community work, as proposed earlier in this discussion. Another possible explanation is that the scope of a service is defined and limited by funding contracts and criteria, which tend to relate more too medical diagnoses than occupational performance and focus on remedying illness and injury. Thus, to a great extent community occupational therapists are forced to narrow their practice to prioritise and deal with the demands of the practice context over what the client wants to focus on or sees as essential (Paddy, 1997). Working within a narrowing funding criterion with restrictions around what work is paid for, time and resources community occupational therapists are frequently carrying out underground practice which add to the identity problems of the profession. Underground practice, coined by Mattingly and Fleming (1994) refers to the actions that occupational therapists consider to be of value but do not communicate.

That said, the profession is uncertain about what its focus and domain of concern is (Crabtree, 1998; Mocellin, 1996). Philosophically there has been some tension within the profession about whether the core concern of occupational therapy is occupation or whether it is about something else (Fortune, 2000; Persson, Erlandsson, Eklund, & Iwarsson, 2001). Burke (2001) found that two different practice perspectives were evident in the therapists that she studied; reflecting the division of the medical focus v’s the occupation focus. Burke concluded that education, training and past work experience influences therapists to practice in specific ways. These practice differences and perspectives determine the language that is used to describe problems and the methods that are adopted to treat and measure change. This finding is important to the study of clinical reasoning as the two opposing styles of practice produce significantly
different reasoning styles and influence how the therapist collaborates and involves the client/family in therapy. It is argued that the clinical reasoning framework can help therapists to develop their reasoning style towards a focus on occupation. A greater occupation focus would ensure that clinical reasoning relates to the core concepts and legitimate tools of occupation and engage clients and families in client centred practice.

The three areas discussed; the understanding of and use of theory in practice, the use of evidence in practice and the controversy surrounding the domain of concern of occupational therapy all impact on the occupational therapist’s ability to clearly explain what occupational therapy is. It is not surprising then that the findings of the present study reflect that communicating the unique role of occupational therapy was an area of difficulty for community occupational therapists in New Zealand. Wilding and Whiteford (2007) suggest that fundamental paradigmatic clashes between biomedicine and occupational therapy are the root cause as to why occupational therapists struggle to articulate clearly what they do. The outcome of this is that occupational therapy is not well understood by service users, other health professionals and funders (Lundgren Pierre, 1999; Townsend, 1998). This is worrying because the climate and context of health care is competitive and so it is clearly in the interest of occupational therapists to become more aware and articulate in what occupational therapy is so that their continuance can be secure (Wilding & Whiteford, 2007). Improved knowledge and communication of occupational therapy theory and clinical reasoning was one of the major benefits to practice as a result of using the clinical reasoning framework. It is expected that long term use of the framework will lead to improvements in therapists’ professional identity.

Professional identity and communication is a significant part of the therapy process and is of vital importance to the configuration of a profession (Mosey, 1986). As therapists go through their career their practice perspective shapes and influences their own personal view of their role. Therapists display their own understanding of what an occupational therapist does which provides both obvious and unspoken influences on their practice of occupational therapy thus having implications for their practice and clinical reasoning (Burke, 2001). How therapists connect to practice and their professional identity are shaped partly by the language that they use. Consequently occupational therapists have adopted language that has resulted in professional identity problems. Working in isolation, in the same role for many years, with limited experience, or with a poor understanding of occupation focused practice influence the
identity, language and clinical reasoning of a therapist. These influences were evident in the participants in the present study. The implementation of the clinical reasoning framework started to address these identity and language problems through the use of structured reflection, which in turn benefited clinical reasoning.

Not using professional terminology to articulate the purpose of occupational therapy and the clinical reasoning behind decision making is another element of underground practice that has severe consequences for occupational therapy. Mattingly and Fleming (1994) proposed that the profession needed to rework professional language to better reflect the work that occupational therapists do. If the professional language of occupational therapy does not correspond to its values it will have serious consequences for the development and continuation of the profession (Lundgren Pierre, 2001). The increase in theoretical knowledge and understanding gained as a direct result of using the clinical reasoning framework led to the clarity of occupational therapy’s unique role and the communication of the same.

Health professionals use language to organise and define the boundaries of their power by articulating their professional domain of concern and scope of practice (Townsend, 1998). The issues described earlier in this chapter surrounding the domain of concern of occupational therapy, medical focus v’s occupation focus, align with the language that is used. Language has the power to change common understanding, professional identity and professional representation (Wilding & Whiteford, 2008). The challenge is put to occupational therapists to communicate their unique and distinctive contribution to client care otherwise we leave ourselves open to funding cuts and challenges to the profession’s profile, representation and relevance (Wilding & Whiteford, 2008). More written and verbal reference to the core concepts of occupational therapy can assist occupational therapists to communicate what occupational therapy is and does, so that others know why an occupational therapist is required (Townsend, 1998). The evaluation of the impact of the clinical reasoning framework contends that its use can guide occupational therapists to use the philosophical and theoretical concepts and language of the profession. Similar to Hooper and Wood (2002) the findings of the present study suggest that when practice is theory based the communication and language of practice improves, as does the execution of occupational therapy clinical reasoning. For therapists who are isolated this framework encourages regular reflection, practice review, and a professional identity focusing on occupation that otherwise might become diluted if unchallenged.
Returning now to the literature review discussion regarding the influence of the therapist in the clinical reasoning process; a conclusion was proposed that therapists develop their clinical practice through the linking of professional scientific based knowledge with their worldview, personal knowledge and theories. The findings of the present study suggest that the community occupational therapists struggled at times with linking these aspects of practice. Therefore maintaining a link between these aspects of practice requires concerted critical reflection and reflexivity on the part of the therapist. The study findings also confirm that the integration into practice all of the types of clinical reasoning, identified in the literature review, is dependent on the therapist’s self-awareness, reflexivity and ability to use structured reflection to challenge thinking and keep practice fresh.
6.3 So how can the clinical reasoning framework help these practice problems that influence clinical reasoning?

The literature review of this study concluded that effective clinical reasoning skills should produce benefits for the client, the service and the profession. Engagement in deeper thinking and deliberate reflective processes encourages therapists to examine their practice and the influences on their clinical decision-making, including ethical perspectives and personal theories (Higgs & Titchen, 2001). Models and practical frameworks can assist the user to do this by providing a structure that encompasses all of the elements for consideration and from this, therapists can make good therapeutic decisions and keep interventions relevant to practice. The evaluation of the clinical reasoning framework supports all of these claims.

The clinical reasoning framework was predominately used by the participants as a structured reflection guide. Roberts (2002) proposed that strategies for reflecting in and on practice need to be incorporated into the therapists’ daily routine to ensure that opportunities arise for the reflection to occur and theory driven practice is delivered. For this to be successful any strategy that is incorporated needs to be user friendly. All participants indicated that the clinical reasoning framework was very easy to incorporate into their work routines as the terminology used was meaningful and representative of their daily work. Interestingly, because of the ease of use therapists were able to visualise the framework concepts when it was not to hand, thus encouraging and assisting reflection in action as well as on action. The clinical reasoning framework empowered the occupational therapists to actively reflect on and change their practice. Recognising that there was so much more to focus on in community practice and in clinical reasoning; such as ethical reasoning and how education and interactions occur with clients and carers to ensure a good outcome (interactive reasoning). However, the risk that comes with knowing that there is more to know might add to the overwhelming feelings already experienced by the therapists.

Use of the framework quadrant prompt questions helped users to separate problems and organise them into manageable chunks which provided clarity for complex clinical situations. This helped the therapists to make better sense of the situation. This is significant for therapists developing knowledge about occupational therapy clinical reasoning (Kuipers & Grice, 2009a) because knowing how to organise complex
situations into manageable chunks helps therapists to identify their reasoning strands and therefore gain a deeper understanding. The participants gaining knowledge of the multifaceted nature and types of clinical reasoning and how they interrelate was an important finding of the study. This knowledge gave the therapists the language to explain, argue and defend their reasoning and their decisions (Ikiugu, Smallfield, & Condit, 2009; Mattingly & Fleming, 1994). Interestingly, the participant who was very new to physical health, coming from four years of working in mental health, appeared to focus more on the procedural aspects of clinical reasoning than other reasoning types. This was probably due to her focus on learning the role and scope of her new role and the procedures and processes. The other three participants focused least on this aspect of reasoning and more on the remaining quadrants.

Congruent with the findings of other studies that evaluated the use of decision making guides (Kuipers & Grice, 2009a, 2009b) the clinical reasoning framework was a suitable means of assisting therapists to include relevant theoretical and evidenced based knowledge into their reasoning. This led to improvements in the understanding and articulation of clinical reasoning to health professionals, clients and families. All of the study participants commented on the positive difference that the structured and systematic way of working made to their practice which support the findings of (Gibson et al., 2000).

For the experienced therapists the framework helped bridge the widening gap between the therapist’s automatic thoughts and actions with the theory base and encouraged a review of the evidence. For the inexperienced therapists the framework prompted a review of the relevant theory/evidence based practice. Although all of the participants did not rush out to seek theory and evidence immediately, they at least started to identify with their theory practice gap. Making the conceptual knowledge explicit resulted in greater clarity and understanding of their unique role as occupational therapists. Through actively reflecting, learning and seeking information to fill their knowledge gap they were able to communicate their unique occupational therapy reasoning which transformed their sense of personal and professional identity.
6.4 Limitations and reflections on the study process

Dependability

Dependability considers the consistency of the study findings; whether there is sufficient information available to be able to replicate the study and whether the outcomes would be similar if the study was replicated in a similar context (Krefting, 1991). That said, a degree of variability is expected in the outcomes of qualitative research, in terms of the participant’s experience, the researcher’s insight and experience and any impacts from everyday life (Krefting, 1991). For this study the reader should consider the researcher’s position in the research as a community occupational therapist, a peer of the participants and the creator of the clinical reasoning framework. These factors will have influenced to some degree the research process. The participants were made aware of the researcher’s position prior to taking part in the study.

Time restrictions, a very small sample size, limited experience as a researcher and limited knowledge of the qualitative research process may have restricted the outcome. The small sample size of this small scale research study cannot generalise the findings of the whole population of community OTs in the North Island of New Zealand. The data collection method adopted meant that participants were describing clinical situations retrospectively; this may have had implications on memory recall and accuracy. Considered also by others researching clinical reasoning (Kuipers & Grice, 2009a; Schell, Unsworth, & Schell, 2008), alternative data collection methods such as direct observation of clinicians and clients and reviewing client documentation was ruled out for this study due to time and travel limitations. It is acknowledged that use of these alternative data collection methods may have produced higher quality data for analysis.

The initial interview completed prior to introducing the framework was an important element of this study that enhanced the depth of this project. It focused the participants to consider their clinical reasoning process and what they knew, and served to gain deeper insights into the therapist’s practice challenges. The participants commented that they had all gained new knowledge from partaking in the project and had started to apply it. Participating in the study had added to their professional development. It is proposed that in the short time frame of six weeks the full implications of using the framework were not realised; however it has shown an ability to bring about occupation
focused, theory driven, evidenced based interventions. Further evaluation of using the framework over a greater time period would determine the longer term impacts on therapist’s practice. Also, if used with students, the impacts on their understanding of clinical reasoning and confidence to apply this knowledge in practice.

Transferability

Transferability considers the applicability of the study findings to another situation or population that is of a similar nature (Krefting, 1991). The findings of the present study regarding practice challenges are limited to the practice context of physical health community occupational therapy in the location where the participants work. Whilst other New Zealand based community occupational therapy services may be able to relate the findings to their practice, further studies are recommended to examine the practice of other physical health community occupational therapy services within New Zealand.

Further evaluation regarding the value of the framework as a reflection tool is recommended with a larger sample size of community occupational therapists and also with occupational therapists from different practice areas. This suggestion is presented as there is no specific terminology that would limit the use of the framework to community physical practice. Further evaluations should also investigate the framework’s applicability as a clinical supervision tool, both in a 1:1 and peer situation, to assist with the review of clinical cases. The study findings suggest that the framework is useful to all staff, regardless of experience level. Students, new graduates and therapists who have changed clinical practice area are considered to be of most benefit. Implementation of the framework into practice is straight forward; a brief instruction sheet on clinical implementation is given in Appendix C. No training is required, however background reading on the types of clinical reasoning is recommended to gain the most benefit. In addition it is proposed that potentially other allied health professionals may benefit from use of the framework, with minor tweaking of terminology. This would require evaluation.
Conclusion and recommendations

The increasing need to justify clinical decisions, use evidence-based practice, and balance cost with the needs of the client (Torcivia & Gupta, 2008) requires occupational therapists to continuously strive to review and improve practice and communicate the value of the profession. It was proposed at the start of this thesis that the practice challenges of community occupational therapy, including isolated working and generalist practice could be worked through using a structured practice framework. The study findings conclude that there were more practice challenges to community occupational therapy than initially considered; some explanations that perhaps underlie these challenges have been discussed. This evaluation study concluded that implementation of the clinical reasoning framework brought value to practice in the following ways: a) provided a structure to guide practice, b) encouraged critical reflection, c) identified gaps in knowledge, d) brought to the foreground the multi aspects of clinical reasoning, e) encouraged use of theory and best practice and, f) improved understanding and articulation of the clinical reasoning process.

Ramsey (2011) called for strategies to promote the development of knowledge and practice skills in community occupational therapy practice. Recommendations that arise from the present study findings are:

1) The clinical reasoning framework can be easily incorporated into practice immediately, without training, to be used as a structured reflection and supervision guide.

2) The framework could be utilised by both student and practising occupational therapists to develop and challenge their current practice theories, clinical reasoning, through structured critical reflection and self-directed learning.

3) It is proposed that the clinical reasoning framework can assist therapists to incorporate the philosophical core assumptions and language of occupation into practice. This will ensure that clinical reasoning and communication reflects clearly the uniqueness and core domain of the profession.
References


Appendix A

Participant information sheet

The evaluation of the 4-quadrant framework of clinical reasoning

You are invited to voluntarily participate in a study that explores the use of a framework to guide clinical reasoning and decision-making in community occupational therapy practice.

General introduction
This study will be part of the researcher’s MSc in occupational therapy practice through the school of occupational therapy, Otago Polytechnic. The researcher has developed a framework that you are invited to use and evaluate. Participation in the study will contribute to your professional development.

What is the aim of the project?
The aim is discover the views of community O.T.’s regarding the usefulness of the 4-quadrant framework when guiding their clinical reasoning/decision making, to evaluate its potential for use in practice and to suggest ways of improving the framework. The framework is based on the different clinical reasoning frameworks that have been influential in the literature. It is designed to be used as a reflection and/or supervision tool to assist therapists to develop their clinical decision-making skills and clinical reasoning. In particular, the framework might be useful for new graduates and students.

What types of participants are being sought?
Community occupational therapists with different levels of experience are required to represent a range of opinions. Four participants are required and will be selected from the group of volunteers.

Can I change my mind and withdraw from the project?
If you choose to participate, you can withdraw at any time without having to give a reason. You can also withdraw any information that has already been supplied until the completion of the final interview. You can refuse to answer any questions and ask for the interviews to be terminated at any stage.

What will my participation involve?
Should you agree to take part in the study you will be asked to use the framework for a period of six weeks. Over this time, you will be asked to participate in two semi-structured 45-minute interviews on a one-to-one basis with the researcher at a location of your choice. These will occur at the beginning and then the end of the 6 week period. The interviews will be audio taped to assist with data analysis; you will be free to stop participating in the interview at any time. There will also be weekly e-mail contacts with the researcher to capture ways that you have been using the framework, and a short questionnaire to complete. Although not compulsory, you will be asked to keep a diary that will assist in your recall of your experiences of using the framework.
How will my confidentiality be protected?
Names on any written data from interviews will be replaced with a pseudonym, as will any other identified features. All identified features of the participants will be changed at the point of data collection in order to protect privacy.

How will the data collected be used?
The data will be analysed by the researcher and the research supervisor, then written up as part of a qualitative descriptive research study. Results of this project may be published but any data included will in no way be linked to any specific participant. You may request a copy of the results of the study on its completion.

What about data storage?
All data from the study will be kept confidential in a locked drawer and on password protected computer files within the home of the researcher for the duration of the study. Following this, the information will be stored securely for 7 years at Otago Polytechnic in line with their policy.

What if I have any questions?
If you have any questions about the study, either now or in the future, please feel free to contact the research supervisor or me:
Donna Reason – Researcher. e.donnajreason@hotmail.com m.021405398 t.078701754 Dr Linda Robertson - Research Supervisor. e.Linda.Robertson@op.ac.nz
Any additional conditions agreed to will be noted on the consent form.

This study has received ethical approval from the Northern Y Regional Ethics Committee. Should you have any concerns and require the support and advice from an advocate the Health and Disability Advocate is available free on t.0800 555 050 e.advocacy@hdc.org.nz
Appendix B

Informed consent form

*The evaluation of a framework of clinical reasoning*

I have read and understood the information sheet regarding this study. My questions have been answered to my satisfaction and I understand that I am free to request further information at any stage.

I know that:
- My participation in this study is voluntary and I am free to refuse to answer any particular question.
- I am free to stop participating at any time.
- I have consented to my interviews being audio taped.
- I can choose to withdraw information without giving reasons; however, I cannot withdraw any information that I have supplied after the completion of the second/final interview.
- I understand that my name or any information that might identify me will be changed to pseudonyms.
- The raw data on which the results of the project depend will be retained in secure storage for seven years after which it will be destroyed.
- The results of the study may be published or used at a presentation in an academic conference but my confidentiality will be preserved.

Additional information given or conditions agreed to:
I will participate in the two 1:1 semi structured interviews, questionnaire and weekly email contact.
I will do my best to use the framework where possible over the six weeks of data collection.
I agree to take part in this study under the conditions set out in the Information sheet.

........................................... (signature of participant)
........................................... (date)
........................................... (signature of researcher)

This study has been reviewed and approved by the Northern Y Regional Health Board Ethics Committee.
Appendix C

Semi structured initial interview outline

(Prompts for me….can you say more about that, can you give an example, how do you manage that)

• Tell me how long you have been qualified, and how long you have been working in community services

1. Briefly tell me about your role/work area and the types of referrals that you receive

2. What are the practice/system related challenges that you deal with in your work?

3. Can you tell me about the client related challenges you face in your practice setting?

4. How do you describe clinical reasoning?

5. What do you know about the different types of clinical reasoning?

6. Talk me though a typical client, what are you thinking about? What factors influence your clinical decision-making?
   
   a. What sorts of cue or factors guide your assessment/treatment planning of each client?

   b. What is it about a person that leads you to decide on a particular treatment?

7. What tools or resources do you currently use to assist your decision-making?
8. When you have difficulties with decision making/clinical reasoning e.g. a complex case. What supports do you have to help you with this?

Now I will tell you about the framework……

Finally, during weekly catch up email questions that I might ask:

- When did you use the framework? Can you give me an example?
- How do you make use of the framework:
  - As a reflection tool?
  - In supervision?
  - Other?
- Have there been any changes to your practice as a result of using the framework? Explain.
- What are the strengths and weaknesses of the framework?
Appendix D

A framework for guiding clinical reasoning and decision making

This framework acts as a visual prompt to ensure that the user considers as many aspects of clinical reasoning as possible during clinical decision-making. The four quadrants identify the different reasoning components that should be given consideration by therapists when working with clients during occupational therapy. The framework assists the user throughout all aspects of the occupational therapy process: problem solving, treatment, evaluation and engagement. It is intended that the framework can be used away from the clinical situation, during reflection and supervision and during the clinical situation as a mental prompt for the therapist. The four quadrants are not to be used in isolation and in turn, but rather as a dynamic process that continues throughout therapy, encouraging the user’s thoughts to flow from one quadrant to another, in any order.

The four quadrants represent the major themes within the clinical reasoning literature. These are:

- **Scientific/procedural reasoning** – encourages the use of a scientific and theoretical base and is concerned with the processes of the profession and the system within which the user works. Also includes pragmatic reasoning.

- **Interactive/conditional reasoning** – concerned with the engagement of the client within the therapeutic process. Also includes narrative reasoning and some pragmatic reasoning.

- **Ethical reasoning** – ensures that the user examines the ethical aspects of the intervention and the context of the situation.

- **Learning and reflection** – prompts the user to reflect in and on action and encourage learning and development to occur.

In summary it is expected that the use of the framework assists the user to make ethical and sound judgements based on theory and engagement of the client in their treatment; it should also encourage the examination of personal theories and their place in practice. The framework might assist the user to communicate dilemmas and decisions to the client and the team, and promote learning and development.
Appendix E

Final evaluation of the clinical reasoning framework:

Questionnaire

Please complete and email to donnajreason@hotmail.com in preparation for our final interview, Thank you.

1. What is your overall impression of the usefulness of the framework?
   Of no value 1 2 3 4 5 Valuable

2. What is the scope for the framework to be used as:
   a) A clinical supervision tool?

   b) A personal reflection tool?

3. Has using this framework made any differences to your practice? Please explain.

4. What changes need to happen to make the framework easier to use? Give comments on the:
   ➢ Quadrants:
   ➢ The prompt questions:
➢ The Toolbox:

➢ Terminology:

5. Describe some of the benefits that have been evident in your practice from using the framework (if not already discussed).

6. In your opinion, who might benefit from use of the framework? Please explain.

7. Does this framework capture all the key elements in the clinical reasoning of a community therapist? What’s missing?

8. Further comments…

Appendix F
Sample of one stage of data analysis

Structured approach was positive?

“Yeah it did actually; it helped with certain complex kind of cases as well. I was able to sort out my own thoughts and put them in a certain way so that I could come up with better intervention plans and ideas, and I was more confident in my own practise as well so it was very useful. And I am definitely going to take that and use it permanently in my own practise as well” Participant A

“I probably read it before I went to see a client, in the beginning, and so I had a few questions in my mind before I went to see the client, and after as well. So especially the reflective process, how I worked with that client, kind of what interventions would be required and why, short term and long term” Participant C

“What it is, I think the framework does cover everything so I’m kind of using it as a check list really. So I’m making sure I’ve covered myself, so I’ve got a lot more confidence that I’ve covered everything that needs to be covered. I’m not looking at it every time I go out or anything. I’ve only looked at it maybe 3-4 times in the last few weeks but it’s sinking in” Participant D

“it’s helped in some of my cases that I’ve found more complex or that had a bit of a problem with or dilemma I think it’s really helped to use it for reasoning. Give a bit more structure to how you’re approaching a problem” Participant B

“I have a more systematic way of working and of reflecting upon my interactions” Participant D

“When relating my visit to this framework, it kind of reassured me that lots of what I had done had a good rationale behind it” Participant D

“I thought it was pretty good. It didn’t interrupt my work at all, it was very easy to follow and the questions very good. It’s actually highlighted quite a few things in my own practise that I can work on and also made me look at my practise in a different way as well to help me, so it was very good” Participant A

“I suppose I’m thinking more broadly about what I’m doing with people. Probably it’s adding more to the interventions I’m considering more than assessment I guess” Participant D

“I think it’s definitely clarified interventions for me, or strategies that I want to use in my practise. I’m able to develop different thinking around complex cases in that kind of way as well. It helps me come up with solutions to blocks that I’m presented with.
And look at things from a different perspective. And also back up what I’m thinking as well. If I have an idea about a certain patient or client but I think is this within my scope of practise or is it okay if I work like this, then going through the clinical reasoning tool no matter what type of reasoning it is it generally highlights or kind of clarifies those questions for me as well. So I am more comfortable with my instincts in practise too” Participant A

The framework has helped me to focus my interventions and self-reflect on my work – I am more confident” Participant A

“the framework has encouraged me to think a bit broader outside my usual practice/intervention and to consider trying things that I haven’t done before. The tool has also helped me be more reflective in my practice” Participant B

“Its useful, worthwhile and of benefit for the OT and our pts, but I also find it hard work. That’s not necessarily a reflection on this specific framework, but a reflection on reasoning and reflecting in general. The framework has shown me how much there is to consider in clinical reasoning and that I was probably quite narrow in my focus before” Participant B

Raised awareness of clinical reasoning processes?

“Yeah, yeah it really has. Hugely. it got me thinking about the background stuff that doesn’t always come to the fore, the frames of references and all that basic foundation theory that we tend to take for granted and just draw on without actively thinking about it” Participant B

“It’s given me pointers again, pointed me back to what we learned. And so it’s good. It is good. Because it’s easy to forget, what we did back then, at uni. So it’s going to keep me thinking and make sure that I keep up with the evaluation and intervention process correctly” Participant C

“yeah I think it’s helped me because I suppose it’s made me realise how much more there is to clinical reasoning than I initially thought. What you can sort of draw into it to help or back up your plans and how you problem solve with patients. it’s opened my eyes to sort of how much there is to it” Participant B

“I have to say this is probably the first time clinical reasoning has actually become like a real thing to me. In university, we did a paper in clinical reasoning but looking back on it now I didn’t understand it completely and maybe that’s because I wasn’t practising, and that could have been because of the tools that we used then. I didn’t see the connection. Whereas with this tool you can see the connection between what I practise
and the clinical reasoning because the questions that they ask relate to my practise and they have words I’m familiar with. And the toolboxes and the questions, it’s all relevant to my own practise so I can see the connection which is very useful. And also it kind of takes the unknown aspect away from it so I’m not afraid to use it or it’s not a major thing to think about clinical reasoning anymore; you can see how it becomes natural” Participant A

“I’ve thought about my clinical reasoning in different ways than I’ve thought before so I’ve sort of been conscious about it in a way that I haven’t been” Participant D

“I have started to think about clinical reasoning in my practice more often” Participant A

“It brings together many theoretical perspectives into a usable form; this is the first I have seen this achieved” Participant D

“I have started to think more about the theory/FORs/models that guide my current practice and decision making” Participant C