Research in clinical reasoning has focused strongly on the cognitive aspects of the processes involved. This chapter reports on research that examined the context of and factors influencing clinical decision making. Clinical decision making is both an outcome and a component of clinical reasoning. Given its pivotal place in the practice of health professionals, it is imperative to identify and understand factors that positively or negatively influence decision making. Of particular interest, when considering the quality of health care, are situations when factors influencing decision making contribute to errors or mistakes, with potential adverse outcomes for receivers of health care, or when factors influencing decision making can enhance healthcare experiences or outcomes.

**CLINICAL DECISION MAKING**

*Decision making* is a broad term that applies to the process of making a choice between options as to a course of action (Thomas et al 1991). Clinical decision making by health professionals is a more complex process, requiring more of individuals than making defined choices between limited options. Health professionals are required to make decisions with multiple foci (e.g. diagnosis, intervention, interaction and evaluation), in dynamic contexts, using a diverse knowledge base (including an increasing body of evidence-based literature), with multiple variables and individuals involved. In addition, clinical decisions are characterized by situations of uncertainty where not all
the information needed to make them is, or can be, known. In this context of clinical decision making there are seldom single decisions made from fixed choices where one decision can be isolated from others. Rather, decisions are embedded in decision–action cycles where situations evolve and where decisions and actions influence each other. Orasanu & Connolly (1993) described the characteristics of decision making in dynamic settings (e.g. healthcare settings) in the following way:

- Problems are ill-structured and made ambiguous by the presence of incomplete dynamic information and multiple interacting goals.
- The decision-making environment is uncertain and may change while decisions are being made.
- Goals may be shifting, ill-defined or competing.
- Decision making occurs in the form of action–feedback loops, where actions result in effects and generate further information that decision makers have to react to and use in order to make further decisions.
- Decisions contain elements of time pressure, personal stress and highly significant outcomes for the participants.
- Multiple players act together with different roles.
- Organizational goals and norms influence decision making.

Clinical decision making has traditionally involved a process of individual healthcare practitioners making decisions on behalf of patients. Chapman (2004) termed this surrogate decision making. More recently, emphasis has been placed on clinical decision making as a collaborative process, involving shared and parallel decision making with patients and teams of health professionals (Edwards et al 2004, Patel et al 1996). The collaborative nature of decision making means that any consideration of factors influencing practitioners’ clinical decision making could also consider factors influencing team decision making and patient decision making.

Given the multidimensional and complex nature of clinical decision making, factors influencing it may arise from multiple sources, resulting in differing effects for different individuals. In this chapter we describe factors influencing decisions in terms of three key areas: the attributes of and the nature of the task, features of the decision maker, and the context in which the decision takes place.

**A RESEARCH PROJECT INVESTIGATING FACTORS INFLUENCING DECISION MAKING**

Doctoral research (Smith 2006) was undertaken by Smith in collaboration with Higgs and Ellis to explore factors influencing clinical decision making by physiotherapists practising in acute care settings (hospitals). The emphasis of this research was on seeking an understanding of factors that influenced the decisions and actions of the physiotherapists as they made decisions in the real context of practice. A hermeneutic strategy was adopted, as the emphasis was to seek an understanding of decision making with the context of practice preserved. Physiotherapists from three experience categories (less experienced, intermediate and more experienced) were observed in their everyday practice and interviewed about their decision making with specific discussion of the factors that influenced it. Data analysis involved hermeneutic analysis of the texts constructed from these interviews and observations.

**OVERVIEW OF FINDINGS: A MODEL OF FACTORS INFLUENCING CLINICAL DECISION MAKING**

The findings of this research revealed that decision making about individual patient care is a complex and contextually dependent process (see Figure 8.1) in which:

- decision making consists of a core process (where decisions are made about patients’ healthcare problems, appropriate therapeutic interventions, optimal modes of interaction and methods of evaluation) that is dependent upon attributes of the task such as difficulty, complexity and uncertainty
- decision making involves a dynamic, reciprocal process of engaging with situational factors
in the immediate context surrounding the decision to identify and use these factors in making decisions and carrying out an optimal course of action, and, at the same time, managing the influence of these factors on decision making to facilitate achievement of an optimal course of action

- practitioner factors (such as their frames of reference, individual capabilities and experience of physiotherapy decision making in the relevant work contexts) influence the decisions they make

- decision making is situated within a broader contextual ethos, with dimensions particular to the practice in the specific workplace

- traversing all of these factors, to manage and make sense of them requires four key capabilities: cognitive, emotional, social and reflexive.

**TASK ATTRIBUTES**

The task of decision making is to make action-related choices (including, if necessary, not acting). The research revealed that, in the decisions made

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**Figure 8.1** Factors influencing physiotherapy decision making in acute care settings
by physiotherapists in acute care settings, a number of attributes influenced the decision-making process. Decisions can be defined in terms of attributes such as stability, certainty, familiarity, urgency, congruence, risk, and relevance and number of variables (Table 8.1) (Connolly et al 2000, Eraut 2004, Lewis 1997, May 1996, Whitney 2003). In each clinical practice situation decisions are characterized by a unique combination of these attributes.

Our research showed that individual decision attributes have poles of difficulty (e.g. stable versus unstable, familiar versus unfamiliar), with further difficulty and complexity arising from the summation and interplay between attributes (Smith 2006). Attributes that made a decision relatively simple were familiarity, certainty, limited variables, stability, congruence, and low risk. Decisions were more difficult if there was uncertainty, conflict, unfamiliarity, changing conditions, multiple relevant variables, and high risk. Difficult decisions had an ethical and emotional dimension that the participants found challenging. These findings are consistent with the wider body of decision-making research that has identified that individuals adopt different decision-making processes.

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Definition</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniqueness</td>
<td>The extent to which the features of this decision are unlike other decisions. For example, uniqueness in making decisions about problems relates to the unique features of this patient and their condition in this specific setting</td>
<td>Schön (1988)</td>
</tr>
<tr>
<td>Certainty</td>
<td>The amount of information and clear guidelines that exist as to the interpretation of data and to guide a course of action</td>
<td>Lewis (1997), May (1996), Whitney (2003)</td>
</tr>
<tr>
<td>Importance/criticalness/value/conflict</td>
<td>The significance of the decision in relation to outcome and effects of negative consequences. Criticalness is used synonymously here to relate to the extent to which the outcome of the decision is of high importance with respect to outcome or where there is the high potential for a negative outcome</td>
<td>Schön (1988), Whitney (2003)</td>
</tr>
<tr>
<td>Stability</td>
<td>The extent and rate at which the environment surrounding the decision is changing or evolving. For example an unstable decision environment is where the patient’s medical condition is changing at the time the decision is changing such that new data are being received and interpreted requiring a dynamic decision making process</td>
<td>Lewis (1997)</td>
</tr>
<tr>
<td>Urgency</td>
<td>The extent to which an immediate decision needs to be made or whether it can be delayed</td>
<td>Smith (2006)</td>
</tr>
<tr>
<td>Familiarity</td>
<td>The extent to which the decision being made is similar to decisions made in the past</td>
<td>May (1996)</td>
</tr>
<tr>
<td>Congruence/conflict</td>
<td>The extent to which elements of the decision such as the inputs, goals, and environment of the decision fit, match and correspond with each other</td>
<td>Lewis (1997)</td>
</tr>
<tr>
<td>Number of variables</td>
<td>The amount of data that need to be considered and interpreted in order to make a decision</td>
<td>Lewis (1997)</td>
</tr>
<tr>
<td>Relevance of variables</td>
<td>The extent to which the data available contain information relevant to the decision being made that needs to be sorted from irrelevant material</td>
<td>Lewis (1997)</td>
</tr>
<tr>
<td>Risk</td>
<td>The estimation of the chance of an adverse or negative outcome occurring as a result of the decision</td>
<td>Smith (2006)</td>
</tr>
</tbody>
</table>
according to decision attributes (Corcoran 1986, Eraut 2004, Fish & Coles 1998, Hamm 1988, Payne et al 1992). Such differences in decision making are expressed in the types of reasoning approach used in decision making and the speed of decision making. With less time, more rapid responses and less analytical approaches are adopted (Eraut 2004).

Cognitive continuum theory (CCT) is a theory of judgement and decision making that links modes of cognition to features of the task (Hamm 1988, Hammond 1996). Hamm (1988) linked the theory to medical decision making, using a continuum of cognition from intuition to analysis, with modes of cognition occurring in between that use a combination of both approaches. Tasks that induce (slower) analytical approaches are well structured, capable of being broken down into sections, and present with complete information. On the other hand, when tasks are poorly structured and are high in level of uncertainty there is little to analyse and therefore the best approach is one that draws on intuition to integrate material. We argue that professional judgement that is grounded in clinical experience is a preferred term to intuition (see Paterson & Higgs 2001).

These theoretical perspectives are reflected in other research undertaken in clinical settings, with features of decision making such as lack of familiarity and uncertainty slowing nurses’ decision-making processes (Bucknall 2003). We also found that, when making decisions in acute care settings, participants responded to simple decisions by choosing a usual mode of practice, choosing an intervention that they found usually worked, and modifying their choice to fit the unique situation by adopting more creative and novel approaches to intervention. In contrast, when decisions were difficult, participants were more likely to experiment, draw upon the knowledge of other people, weigh up the competing aspects of the decision and follow protocols or rules, seeking less opportunity for creativity. Similarly, Corcoran (1986) found that nurses faced with complex tasks used opportunistic planning as opposed to a systematic approach. She noted that they adopted an approach consistent with an intuitive approach, where they pursued ‘whatever seem[ed] opportune or promising at the time’ (p. 107).

**THE NATURE OF THE DECISION TASK**

Decision making is influenced by how individuals conceptualize the decision to be made and the outcome they seek to achieve. An assumption in clinical practice is that individuals make decisions with the aim of making the best choice, this being to choose the right diagnosis, or to optimize patient outcomes if the decision is choosing an intervention. This assumption may be a generalization, with healthcare professionals potentially framing the desired outcomes of their decision making in alternative ways. Different factors will be considered to be important, depending on a decision maker’s mental representation of the situation (Soman 2004). Schön (1988, p. 66) used the notion of problem setting to describe the ‘process in which, interactively, we name the things to which we will attend and frame the context in which we will attend to them’. Framing affects the size of what can be seen, and affects the perspective and what is seen to be the problem. We identified that physiotherapists practising in acute care settings made intervention choices that were directed at improving patient outcome; however, they also aimed to be safe and to ensure that workloads were completed, and wanted their decisions to be justifiable and serving to assure their emotional comfort. The framing of desired outcomes in these different ways has important implications for decision making. Whereas one individual might see the goal of decision making as achieving a desired outcome and is prepared to take a risk to do so, another might see the preferred goal as safety and be much less likely to take a risk.

Tversky & Kahneman (1981, p. 453) used the term decision frame to refer to ‘the decision-maker’s conception of the acts, outcomes, and contingencies associated with a particular choice’. They proposed that the ‘frame a decision-maker adopts is controlled partly by the formulation of the problem and partly by the norms, habits, and personal characteristics of the decision maker’. Given this perspective, clinical decision making will be affected by the norms and habits which decision makers have acquired through their experience of clinical practice.
ATTRIBUTES OF DECISION MAKERS

The physiotherapists in our study had a number of frames of reference that guided their decision making. These were:

- a multi-dimensional professional knowledge base
- a conceptual framework for acute care physiotherapy practice
- individual practice models
- personal frames of reference that included their values, beliefs and attitudes.

Decision-making research in the field of psychology has established that attributes of individuals influence decision making, with particular reference to decision-making biases. We found that attributes of decision makers, such as their capabilities, confidence, self-efficacy, emotions, frames of reference, and degree of expertise, also influenced their decision making. Decision makers have been found to make a number of systematic deviations from normative models of decision making. These deviations are referred to as biases in decision making (Keren & Teigen 2004). Some examples of reasoning biases include misinterpreting findings as confirming a hypothesis when they indicate that an alternate finding should be considered (Elstein & Schwarz 2000), overemphasizing the likelihood of rare conditions (Dowie & Elstein 1988), and making different decisions for individuals than for groups of people, even though they have the same condition (Chapman 2004).

We found that physiotherapists in acute care settings had a number of personal qualities or capabilities in decision making that enabled them to make effective decisions in relation to the task, and also in consideration of the context of practice. Bandura (1986) defined capabilities as the cognitive means by which individuals can influence and control their behaviour. He noted that: ‘given the same environmental conditions, persons who have the capabilities for exercising many options and are adept at regulating their own behaviour will have greater freedom than will those who have limited means of personal agency’ (Bandura 1986, p. 39).

The capabilities of the physiotherapists in our study are shown in Box 8.1. We categorized these as cognitive, metacognitive/reflexive, social and emotional capabilities. The social and emotional capabilities are drawn from the notion of social and emotional intelligence that has been described in the literature (Stephenson 1998). Social and emotional intelligence is concerned with understanding and relating to people (McQueen 2004), and includes self-awareness, self-regulation, self-motivation, social awareness and social skills (Freshman & Rubino 2002). Metacognitive/reflexive capability refers to the self-reflective capability to critically evaluate one’s own experience of decision making with a view to informing future practice with similar conditions.

In defining the notion of capabilities, Bandura (1986, p. 391) also used the notion of self-efficacy, that is, ‘people’s judgements of their capabilities to organize and execute courses of action required to attain designated types of performances’. Self-efficacy has parallels with the notion of confidence in decision making. Our study revealed that in clinical decision making by acute care physiotherapists, self-efficacy and confidence in decision making were important determinants of the decisions that were made. Physiotherapists’ feelings and levels of self-efficacy resulted from: (a) evaluating their level of knowledge, particularly in comparison to the knowledge levels of other health professionals with whom they were working; (b) having experienced success and failure; and (c) knowing the likely responses to interventions and the likelihood of adverse events occurring. When self-efficacy was higher there was a greater willingness to take risks and greater confidence in decision making, as opposed to relying on others or deferring decision making. Consistent with previous research (Ewing & Smith 2001) we noted that self-efficacy was linked with experience, with more experience being associated with higher levels of self-efficacy.

Decision makers’ emotions and feelings of confidence and controllability influenced our participants’ decision making as they sought to control negative outcomes and emotions, particularly under conditions of risk and uncertainty. Feeling confident in decision making can be linked to
experiencing positive emotions, in contrast to experiencing fear and anxiety in decision making. Individuals have been found to make decisions based on a desire to minimize the experience of negative emotions and maximize the ease of justification of a decision (Payne & Bettman 2004). Decision making may be affected using a process of rule-following which involves the application of rules to situations in an effort to ‘find efficient, adaptive, satisfying decisions’ (Mellers et al 1998, p. 469). Payne & Bettman (2004) suggested that decision makers can be motivated to solve a problem as well as possible in order to avoid negative emotions, or alternatively to change the amount of thought involved by avoiding making a decision, letting others make the decision, maintaining the status quo, choosing another option that is easy to justify to others, and avoiding specific aspects of the decision that they find distressing.

A final important attribute that influences decision making is the decision maker’s level of expertise, with experts considered superior decision makers making decisions that are faster and more accurate. A distinction is typically made between the extremes of novice and expert. In reality, individual practitioners are more appropriately viewed as being in varying degrees of transition between more and less experienced

<table>
<thead>
<tr>
<th>Cognitive capabilities</th>
<th>Emotional capabilities</th>
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<tbody>
<tr>
<td>Capability to identify and collect relevant information (task and contextual) and process these data in order to make decisions in the focal areas of problems, intervention, interaction and evaluation</td>
<td>Awareness of emotions and when they are impacting on decision making, particularly awareness of self-efficacy</td>
</tr>
<tr>
<td>Capability to form relevant mental representations of decision-making situations</td>
<td>Capability to deal with problematic emotions in order to make difficult decisions required for patient management</td>
</tr>
<tr>
<td>Capability to predict the consequences of decisions</td>
<td>Motivation to learn and improve quality of decision making in the face of potentially conflicting emotions that impact on decision making</td>
</tr>
<tr>
<td>Capability to process and interpret a multitude of decision inputs (task and contextual) to make ethical and justified decisions</td>
<td>Capability to identify and deal with patients’ and care-givers’ emotions that are impacting on CRP management</td>
</tr>
<tr>
<td>Capability to make pragmatic decisions in the face of uncertainty and/or under-resourcing</td>
<td>Capability to establish and maintain effective relationships in the workplace with patients, care-givers and work colleagues by managing the emotions of others</td>
</tr>
<tr>
<td>Capability to adapt practice decisions to new and changing circumstances</td>
<td>Social capabilities</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Metacognitive/reflexive capabilities</th>
<th>Emotional capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness of the process of decision making and factors that influence one’s decision making</td>
<td>Capability to interact effectively with others in the decision-making context</td>
</tr>
<tr>
<td>Capability to monitor and evaluate decision making throughout the process of making decisions</td>
<td>Capability to critically learn from others</td>
</tr>
<tr>
<td>Capability to self-critique experience of and effectiveness of decision making and use this critique in the development of knowledge structures to inform future decision making</td>
<td>Capability to manage relationships where differentials in power exist and to achieve effective decision making autonomy</td>
</tr>
<tr>
<td></td>
<td>Capability to involve others meaningfully and appropriately in collaborative decision making (including team members and at times patients and carers)</td>
</tr>
</tbody>
</table>
and expert. As such, they will demonstrate characteristics consistent with their own variable pathways towards expertise, dependent upon their unique experiences.

The more experienced physiotherapists in our study adopted an approach to decision making that was more specific, creative and refined towards the individual needs of patients and the unique contextual dimensions. They used more interpretation and critique in their decision making, being increasingly more confident and self-reliant. They handled uncertainty in decision making more effectively by adopting a practical certainty, being better able to engage in wise risk-taking and possessing a greater knowledge base that decreased the relative uncertainty of decision making. Their knowledge base was broader than that of the novices and contained a higher level of experience-based knowledge. Their knowledge base was personalized, multidimensional, and included a better awareness of the limits of their knowledge with respect to what could be known. More experienced physiotherapists also had more advanced cognitive capabilities for decision making, being more flexible, adaptive and capable of predicting outcomes, as well as having higher levels of emotional capability, being able to separate emotion from task, having a higher awareness of patients’ experiences of illness, and knowing how to use their own personality and its effects in their decision making.

The frames of reference of more experienced practitioners are different from those of novices. Experts represent and frame decision-making situations differently from novices, seeing situations more broadly (Corcoran 1986, Phillips et al 2004). Expert decision makers critically apply norms and criteria of decision making. Where novices choose simply to follow rules, experts understand the bases for the rules and thus apply them more wisely (Benner 1984). The more experienced physiotherapists in our study had more developed personal theories of practice consisting of their own set of criteria for practice as opposed to using rules and guidelines for practice derived from their university-based teaching or work-based protocols. Whereas less experienced practitioners framed decision making as needing to make the right decision, more experienced practitioners sought optimal decisions given the circumstances.

More experienced practitioners were also more capable of managing the context, being more aware of the influences and better able to pragmatically interact with and manipulate contextual factors to achieve optimal decision outcomes. The knowledge base of experts has been found to extend beyond direct patient care, to include knowledge of their work context in terms of the physical environment and organizational structures (Ebright et al 2004).

**ATTRIBUTES OF THE EXTERNAL CONTEXT**

A key focus of our research was to explore the influence of the external context of practice on decision making. Our research showed that our participants’ decision making could not be separated from the context in which it occurred. The physiotherapists accounted for context in their decision making by changing or modifying decisions that they would have otherwise made in response to contextual factors, but also developing strategies to manage and control the context of their practice. This is consistent with other findings such as those of Ebright et al (2003, p. 631), who noted that ‘to prevent things from going wrong, practitioners anticipate, react, accommodate, adapt, and cope to manage complexity in the midst of a changing environment.’

We found that the interaction between context and decision making was reciprocal, complex and dynamic. The influence of specific contextual factors upon decision making was dependent upon the unique features of the decision being undertaken at the time. Context was not a fixed entity but was found to be dynamic and variable. A key finding of our research was that contextual factors influencing practitioners’ decision making could not be consistently ranked according to their prevalence or importance. Rather, different contextual factors assumed different importance according to the unique circumstances at a given time.

To understand the interaction between context and decision making, Bandura (1986) offered a theory explaining human behaviour in which context (or the environment) acts in a dynamic
reciprocal way with the cognition and personal attributes of individual decision makers. He suggested that ‘human functioning is explained in terms of a model of triadic reciprocality in which behaviour, cognitive, and other personal factors, and environmental events all operate as interacting determinants of each other’ (p. 18).

Bandura (1986) proposed that the effect of behaviour on the environment, and the environment on behaviour, is not always equal. He offered examples where asymmetries exist, such as ‘disparities in social power, competencies, and self-regulatory skills’ (p. 29), in which environmental influences may take a more dominant role. He argued (p. 39):

Judgements regarding environmental factors enter into the choice of particular courses of action from among possible alternatives. Choices are not completely and involuntarily determined by environmental events. Rather making choices is aided by reflective cognitive activity, through which self-influence is largely exercised. People exert some influence over what they do by the alternatives they consider, how they foresee and weight the consequences, and how they appraise their capabilities to execute the possibilities they are entertaining.

The broader context of clinical decision making can be seen to consist of different types of factors that become relevant to particular decisions; these include social, professional, organizational, and physical and environmental dimensions. The literature contains a number of examples that illustrate how decisions are influenced by these contextual factors. The social context in particular has been shown to have a large influence on clinical decision making (Chapparo 1997, Denig et al 1993, Greenwood et al 2000). We found that practitioners referred aspects of their decision making to others in the context, particularly when a decision was difficult to make, used chatting with others to check their decision making, used others to generate novel perspectives, and anchored their decision making to decisions others had made in the past. Larrick (2004) indicated that the effects of the social context on decision making can be both positive and negative. Positive influences include using other individuals to check for errors, utilizing positive synergies arising from the combination of team members’ knowledge, and recognizing that there is an increased likelihood of generating novel solutions and diverse perspectives when more people are consulted in decision making. Conversely, the social context can have negative effects when individuals choose to do what others do to avoid social rejection or to take advantage of others’ decision making rather than being responsible for their own decision making. When ‘under conditions of uncertainty, people are susceptible to anchoring on the judgements of others in forming their own judgements’ (Larrick 2004, p. 326), and when all members of a group share similar training or dominant workplace norms, people can be inhibited from offering or adopting different perspectives.

Social influences on decision making have also been described in multidisciplinary settings, such as intensive care units. Patel et al (1996) reported that where multiple players were involved in decision making, the process and outcomes were influenced by the urgency of the situation and the hierarchy and social structure of the organization. Similarly, Varcoe et al (2003), investigating moral judgements and decision making by nurses, found that decisions and actions were highly relational and contextual, with decisions of the individual being related to the decisions of others in the organization. Bucknall (2003) found that hierarchical systems existed that provided decision making support for less experienced staff, who passed information and provisional decisions on to more experienced staff until someone made a decision. Beyond direct influences, Ebright et al (2004, p. 531) also noted that nurses ‘learn and refine their clinical and caring knowledge from socially determined aspects of their work environment, including the expertise of co-workers, social climate and team functioning, and shared experiences’. Consistent with the literature, we found that social factors directly modified and changed decisions for novices, whereas more experienced practitioners adapted to, controlled and manipulated these factors (Ebright et al 2003, Smith 2006).

In addition to social influences on decision making, we found that organizational systems such as workloads, interruptions, and organizational policies and procedures also influenced decision making. Organizational system factors
such as amount and distribution of workload influenced decision making by affecting the time available to make decisions and provide intervention. The acute care physiotherapists responded to high workloads by adapting and incorporating a sense of their workload and their capacity to manage it into their decision making. Where workload resulted in limited time availability, compromises were made in the decisions that could be made. Participants reported prioritizing some patients over others, prioritizing which problems would be addressed, reducing the numbers of times they would see a patient and discharging patients more readily. They also reported effects such as less thinking time, less effective interventions, streamlining assessment, choosing less creative options for treatment, less time for offering patients choice in decision making, and choosing interventions that would be adequate rather than optimal. Bucknall (2003) found that experienced nurses working with more inexperienced staff projected ahead to identify potential increases in their workload and the availability of medical staff. Organizational factors such as time have also been found to influence decision making by affecting the capacity of decision makers to develop rapport with patients. The capacity to get to know patients and their condition was recognized as an important component of decision making by the physiotherapists in our study, consistent with findings in studies of nurses and radiographers (Brown 2004, Jenks 1993).

Hedberg & Sätterlund Larsson (2004) found that the continuity of nurses’ decision making was disrupted by organizational matters such as interruptions from others asking questions or asking for assistance, phone calls, and others wanting to exchange information. These authors suggested that such interruptions add to the complexity of the decision-making process, increasing the demands on cognitive capacity to recall information and make decisions. They suggested that interruptions to interactions can positively influence nurse decision making by providing them with additional information, but can also disrupt the flow of ideas causing them to forget as they try to manage different threads of decision making.

Other aspects of organizations that affected the participants’ decision making were the systems in place to guide decision making, such as clinical pathways, policies, protocols, and also system definitions of acceptable practice that were represented in the norms, criteria and standards to which individuals working in a centre should adhere (Smith 2006).

Finally the physical environment influenced decision making by affecting the resources available. The participants had to reason and make decisions about the location and supply of equipment, room layout, and which piece of equipment they would use, considering the constraints of the resources they had available. Ebright et al (2003) found that nursing staff needed to develop specific knowledge of the geography of the unit and location of resources. With increased experience of working in the same context nurses developed familiarity with equipment that improved their efficiency and decision making.

**CONCLUSION**

Quality decision making is an essential component of good clinical practice. If we are to understand, critique and improve clinical decision making, it is imperative that, in addition to understanding the elements of the immediate clinical problem, we make explicit the contextual factors that are taken into account when making decisions. When seeking to improve decision-making, a broad perspective needs to be adopted that considers factors such as the individual’s decision-making attributes and the influence of the external context on decision making.

Evidence-based practice is consistently advocated as a means for improving the quality of clinical practice. A broader perspective of factors influencing decision making illustrates how evidence-based practice needs to be integrated with many other influences on practice. Consideration of social and organizational dimensions of context is critical in optimizing the quality of clinical decision making. If we are to promote effective decision making, we need to understand how we can best teach decision making that considers and manages the multiplicity of factors that influence it, rather than focusing only on the immediate clinical decision-making tasks of diagnosis and intervention.
Acknowledgements

The doctoral research project described in this chapter investigating factors influencing decision making was undertaken by Megan Smith. Joy Higgs and Elizabeth Ellis were supervisors and co-researchers in the project.

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