

**Physiotherapy's role in emergency department
settings:
A qualitative investigation of emergency
stakeholders' perceptions**

Thesis submitted by

Sophie ANAF

Bachelor of Physiotherapy (Honours)

University of South Australia

May 2008

For the degree of Doctor of Philosophy (Physiotherapy)

In the School of Public Health, Tropical Medicine and Rehabilitation Sciences

Faculty of Medicine, Health and Molecular Sciences

James Cook University

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The research presented and reported in this thesis was conducted within the guidelines for research ethics outlined in the *National Statement on Ethics Conduct in Research Involving Human* (1999), the *Joint NHMRC/AVCC Statement and Guidelines on Research Practice* (1997), the *James Cook University Policy on Experimentation Ethics. Standard Practices and Guidelines* (2001), and the *James Cook University Statement and Guidelines on Research Practice* (2001). The proposed research methodology received clearance from the James Cook University Human Ethics Review Committee (approval number H2396).

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Financial Assistance

This thesis was financially supported by an Australian Postgraduate Award, a co-funded James Cook University Postgraduate Research Scholarship and an additional contribution from a James Cook University Faculty of Medicine, Health and Molecular Sciences Graduate Research Scheme grant.

Editorial Assistance

This thesis was professionally edited to achieve stylistic fluency only. No assistance with the content, conduct and interpretation of the research was provided.

Acknowledgements

I would like to express my sincere gratitude for the mentorship and friendship of my principal research supervisor, Professor Lorraine Sheppard. Her commitment to guiding me through this research, her knowledge and readiness to answer questions at all hours of the day and night has been helpful and reassuring beyond words. Thank you.

To the members of the James Cook University Physiotherapy Department, past and present –Ilsa Nielsen, Anne Bent, Robyn Adams, Ruth Barker, Anne Jones, Sue Gordon, Sally Ruston and Michele Clark – thank you for your unwavering support and the endless morning tea chats. Your camaraderie and advice have made my transition to Townsville and academia all the more enjoyable.

This research would not exist without the support from the emergency departments and physiotherapy departments of The Townsville Hospital and the Austin Hospital. I thank every participant for their contribution and willingness to share their opinions with me.

Finally, I would like to dedicate this thesis to the people in my life who truly made it happen – my fiancé, Jordan, for his calm demeanour and humour during the rollercoaster that is a PhD; my dad, Gil, and my mum, Julia, who kept me on an even keel with their love and ideas, and for consistently being my voices of reason; my brother Alex, for always brightening my mood and providing me with pastries; and my granny, Laurie, who has always been so enthusiastic and supportive of my endless study.

This thesis is also dedicated to the memory of my beloved Nonna and Nonno who personified loyalty and commitment, and who would have gotten a ‘kick’ out of seeing this research materialise.

~ *For my boys, Jordan and Putchkey* ~

Abstract

The principal aim of the research was to explore the varying perceptions of what physiotherapy can offer the emergency department system based on the opinions of doctors, nurses, physiotherapists and patients in that system, and opinions of the community health sector. In conjunction with existing literature and the research findings, conceptual models of emergency department (ED) physiotherapy were developed to illustrate appropriate clinical practice and integration of the position within the emergency department system. Two overarching aims were to: identify different stakeholders' expectations and interpretations of ED physiotherapy; and have stakeholders consider how physiotherapy contributes to the emergency department system. The main objective was to formulate conceptual models of physiotherapy's integration into the emergency department system based on these varying perspectives.

This study employed an interpretivist-systems theory-case study methodology; a unique direction for physiotherapy research. The qualitative data sources were continually aligned within a broader 'systems' framework. The participants represented individual elements in the emergency department system. General systems theory, combined with principles of Soft Systems Methodology, appropriately highlights pragmatic components of the research, such as what the physiotherapy role encompasses and how it influences emergency department service delivery. It is also sensitive to the meaning of social, cultural and political undercurrents embedded in participants' responses; acknowledging diverse world views and respecting the value of different voices in the research, even if they differed from the researcher's own world view. Case study method added structure to the conduct of the research, making it further amenable to qualitative data techniques.

Data collection used a variety of qualitative approaches including surveys of patients (N=80), questionnaires for community health professionals (N=35) and in-depth interviews with emergency department staff (N=12). The Townsville Hospital, Queensland, and the Austin Hospital, Victoria, were the two cases under investigation, the former having no official full-time ED physiotherapy service and the latter having used physiotherapy to treat acute patients in the department for over seven years. The varied dataset provides one of the most comprehensive qualitative perspectives on emergency department physiotherapy to date. Components of research rigour were meticulously considered and findings were intermittently realigned to systems theory principles to provide fresh insight into ED physiotherapy's professional contribution.

Stakeholders' perceptions were considered from a systems theory view, professional practice perspective and in the sphere of the broader health system. Three categories of conceptual models were built based on agreed features of ED physiotherapy across the stakeholders and two cases. The models, as abstractions, highlight appropriate integration of physiotherapy within the emergency department; core clinical competencies; and suitable ownership of ED physiotherapy to preserve its identity and accountability within the emergency system.

The participants' voices dominate the research, creating a rich, nuanced view of ED physiotherapy as an Australian practice. The conceptual models attempt to unify these voices.

The thesis is advantageous to the physiotherapy profession by not isolating opinion to a physiotherapy-only perspective and encouraging future discourse to overcome barriers, potential conflict and misconceptions of physiotherapy practice so that ED physiotherapy is better understood and appropriately implemented.

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Anaf, S and Sheppard, LA (2007). Physiotherapy as a clinical service in emergency departments: a narrative literature review. *Physiotherapy*, 93 (4), pp. 243-252.

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Anaf, S and Sheppard, LA (2006). Mixed methodology in the middle. *IIQM 7th International Interdisciplinary Conference on Qualitative Methodology* – Gold Coast.

Under review/ development

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Walters, J, Anaf, S and Sheppard, LA (2008). Combining systems principles and mixed methods in health systems research. *Qualitative Health Research*, under review.

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Glossary

| | |
|---|---|
| Access Block | Patients in the emergency department requiring inpatient care are unable to gain access to appropriate hospital beds within a reasonable timeframe (typically greater than 8 hours) (Australasian College of Emergency Medicine, 2004a) |
| Australasian Triage Scale | An emergency department classification system to determine the severity of a patient's injury or illness. Rated by a five-level system. |
| Australian Physiotherapy Association | The professional body for Australian physiotherapists. |
| Australian Physiotherapy Council | An independent national body that monitors the quality and standards of physiotherapy teaching and knowledge. Accredits physiotherapy courses in institutions and evaluates international clinicians who wish to work in Australia. |
| Biopsychosocial Model of Health | ...A multifactorial model of illness that takes into account the biological, psychological, and social factors implicated in a patient's conditions. Like the biomedical model, it focuses on the individual for diagnosis and treatment (Germov, 2002, p.14). |
| Care Coordination Team | A multidisciplinary team within the emergency department designed to facilitate treatment and discharge of patients into the community. |
| Casemix | An organisational system which allows hospital departments to classify inpatient care episodes. |
| Closed System | A system that has strongly internalised operations and reduced boundary permeability. |
| Conceptual model | A theoretical drawing designed to represent features of a system. Describes functional relationships between elements of a system. |
| Element | A component of a system that, when placed with other elements, forms relationships that influence the system's operation. |
| Emergency Department | The dedicated area in a hospital that is organised and administered to provide a high standard of emergency care to those in the community who perceive the need for or are in need of acute or urgent care including hospital admission (Australasian College for Emergency Medicine, 2001). |
| Emergency Department Physiotherapy | A physiotherapy clinician dedicated to working as a member of the emergency department team to manage patients either autonomously or in conjunction with other attending medical or nursing staff (Anaf & Sheppard, 2007c) |

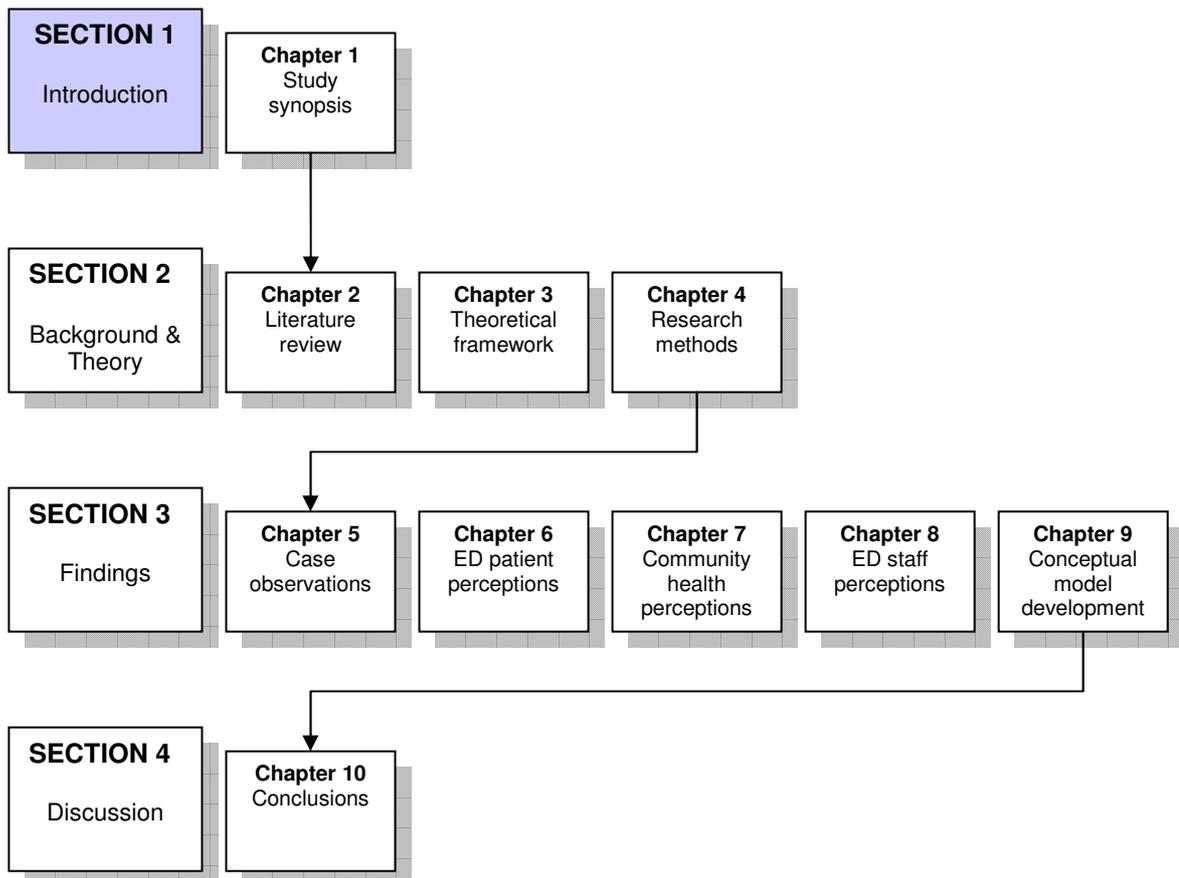
| | |
|---|---|
| General Systems Theory | A specific systems theory that seeks a common language to unite the scientific community (Midgely, 2000). Believes that the 'whole is greater than the sum of its parts'. General Systems Theory is applicable to all manner of sciences. |
| Homeostasis | Any process which regulates or maintains a system in a stable state in relation to a changing external environment in which this system operates ("Collins Dictionary of Sociology," 2000). |
| medTRAK | An emergency department computer system which displays patient histories, triage categories, their location within the hospital and investigations being conducted. |
| Metaphor | A feature of General Systems Theory which combines theoretical concepts surrounding a system with practical features of that system. It is a way to judge the value of certain applications of systems theory to a particular real-world experience. |
| Overbounded System | A system too constricted by boundaries and disconnected from the external environment (Alderfer, 1980). |
| Open System | A system which has strong boundary permeability which allows more pronounced relationships between inputs, outputs and the environment. |
| Soft Systems Methodology | A type of systems theory that aims to strategically solve problems that are ill-defined. Soft systems are typically underbounded and it is a methodology ideally suited to poorly described, poorly researched and complex systems/ organisations. |
| System | An organised assembly of components that share a relationship with each other, creating a unique behaviour, with each component contributing to as well as being affected by it. Contains boundaries, elements, relationships and is sensitive to homeostasis (Sturmborg, 2004) |
| Underbounded system | A system with too much boundary permeability causing great entanglement with the external environment. The system risks losing direction and identity (Alderfer, 1980). |
| Victorian Ambulatory Classification System | A model that provides the emergency department with funds based on attendance to the department weighted by triage category. |

Abbreviations

| | |
|-------------|---|
| ACEM | Australasian College for Emergency Medicine |
| AMA | Australian Medical Association |
| ANF | Australian Nursing Federation |
| APA | Australian Physiotherapy Association |
| APC | Australian Physiotherapy Council |
| ATS | Australasian Triage Scale |
| AX | Abbreviation for ‘Assessment’ |
| CCT | Care Coordination Team |
| ECCT | Emergency Care Coordination Team |
| ED | Emergency Department |
| ENP | Emergency Nurse Practitioner |
| GP | General Practitioner |
| GST | General Systems Theory |
| HITH | Hospital In The Home |
| LOS | Length of Stay |
| MX | Abbreviation for ‘management’ |
| NHS | National Health Service (UK) |
| NRHA | National Rural Health Alliance |
| QACS | Queensland Ambulatory Classification System |
| RX | Abbreviation for ‘treatment’ |
| SSM | Soft Systems Methodology |
| SSOU | Short Stay Observation Unit |
| VACS | Victorian Ambulatory Classification System |
| WCPT | World Confederation of Physical Therapists |

SECTION 1

INTRODUCTION



1 Study Synopsis

1.1 Research rationale

Emergency department physiotherapy research emerged in the mid-1990s. It has slowly gained research momentum over the past decade, but lacks investigation into different people's interpretations and descriptions of emergency department (ED) physiotherapy's role in the Australian health system. This study fills that gap and also provides the first known synthesis of systems theory, interpretivism and case study methodologies in physiotherapy research. Its significance lies in its commitment to using qualitative research strategies to provide a comprehensive Australian perspective on what ED physiotherapy is, the professional relationships forged, and its contribution to service delivery and quality patient care in the emergency system. Importantly, it emphasises the perspectives of stakeholder groups outside the physiotherapy profession.

Emergency department physiotherapy is poorly defined and understood in Australia. Unlike the United Kingdom (UK), the original home of ED physiotherapy, where there is a clear musculoskeletal and minor injury role for the position in a large number of hospitals (Jibuike, Paul-Taylor, Maulvi, Richmond, & Fairclough, 2003; McClellan, Greenwood, & Benger, 2006; Richardson et al., 2005), in Australia individual hospitals determine what ED physiotherapy involves and decide whether to provide it. There is a virtual absence of empirical research conducted in Australia to help explain how physiotherapy operates in the emergency setting. While a small number of studies describe the position as being part of a Care Coordination Team (CCT) structure – a multidisciplinary group who coordinate the discharge of predominantly elderly patients from the emergency department (Anaf & Sheppard, 2007a; Moss et al., 2002; Philip, 2006; Taylor, Bennett, & Cameron, 2004) – physiotherapy's explicit contribution to the emergency setting in a CCT is minimally described. An understanding of its relationships with other emergency department stakeholders, including patients, is practically non-existent.

In this research a working definition of the ED physiotherapy position is:

... a physiotherapy clinician dedicated to working as a member of the emergency department team to manage patients either autonomously or in conjunction with other attending medical or nursing staff (Anaf & Sheppard, 2007c; Morris & Hawes, 1996)

In Australia, physiotherapists have the opportunity to manage certain emergency patients

autonomously, with little consultation with traditional emergency medical and nursing staff. This has generated a mixture of optimism and reservation from health and medical professional bodies such as the Australian Medical Association (AMA) and the Australian Physiotherapy Association (APA) (Australian Medical Association, 2004; Australian Physiotherapy Association, 2005; Nall, 2005a). While the prospect of providing an advanced level of clinical care for certain non-urgent conditions in the emergency setting excites the physiotherapy profession (Australian Physiotherapy Association, 2005; Nall, 2005a), some medical and nursing professionals are concerned about the level of autonomy afforded to physiotherapists and fear having them supersede some clinical roles, such as ordering diagnostic medical imaging (Australian Medical Association, 2004, 2006).

The paucity of qualitative research investigating the perceptions of staff, patients and community health professionals 'within the trenches' on whether the position is compatible with their roles and professional agendas compounds the climate of uncertainty surrounding the extent of ED physiotherapy's responsibilities. It is unclear whether the emergency department's traditional biomedical culture is compatible with the biopsychosocial model of care that physiotherapists practice and how this influences physiotherapy's ability to fully participate in the department. These issues need investigation to ensure Australian ED physiotherapy is best applied, and shares a compatible ideology and direction with emergency medicine.

Central to this thesis is the exploration of multiple stakeholders' opinions of ED physiotherapy. This avoids isolating the research to a physiotherapy-only perspective. The relationship between human elements of the emergency system within the department and in the community health sector provides a unique angle on the topic, explored through adopting a systems theory perspective, a methodology traditionally reserved for domains such as engineering and politics (Alderfer, 1980; Checkland, 1999; O'Meara, 2002). This innovative approach to physiotherapy research provides an opportunity to develop conceptual models stemming from systems theory to inform ideas of practice and integration of physiotherapy into the emergency department in an Australian context (Braithwaite, Hindle, Iedema, & Westbrook, 2002; Checkland & Scholes, 1990; O'Meara, 2002).

A comparative case study design contained the scope of the study to one large metropolitan hospital, the Austin Hospital, and one large regional facility, The Townsville Hospital. Considering the views of a regional Australian centre provided a landmark direction for ED physiotherapy research. Regional Australia is different from metropolitan Australia as health services and staff volumes tend to be more restricted, there is typically only one hospital that

provides emergency services and the emergency department is usually responsible for a bigger catchment area (Forster, 2005; Williams, D'Amore, & McMeekan, 2007). The Austin Hospital has had an ED physiotherapy service in place for over 7 years (Anaf & Sheppard, 2007a), while The Townsville Hospital does not have a dedicated service. The value of a comparative case study approach is that it can highlight individual differences or local variation in the perceptions of ED physiotherapy, and show collective agreement as to what the role involves and how it can assist the emergency system.

The thesis structure is built around the research methodology and process. It is grouped into four key sections and ten chapters (O'Meara, 2002). Following this synopsis highlighting the research aims, directions and findings, Section two presents a comprehensive literature review, the theoretical framework and the conduct of the research. Section three contains five chapters of findings culminating in the development of conceptual models of ED physiotherapy practice and its integration into the emergency system. Section four concludes the thesis by aligning the key research aims with the findings and suggesting appropriate future directions for ED physiotherapy research.

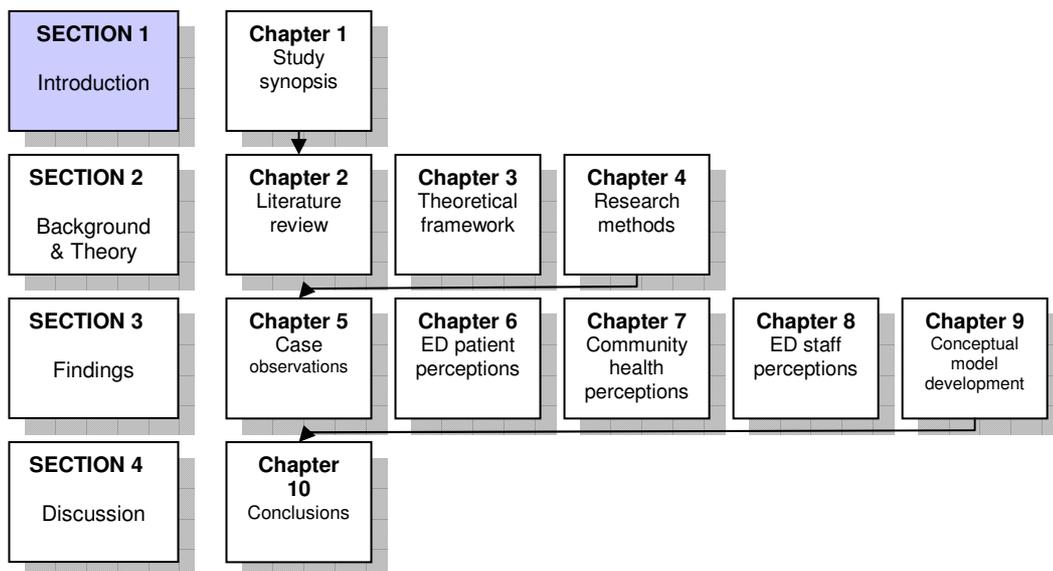


Figure 1: The thesis pathway (adapted from O'Meara, 2002).

1.2 Research aims, objective and intended outcome

The two key research aims were:

- To identify stakeholder expectations and interpretations of physiotherapy's role in the emergency department.**

Key questions asked to achieve this aim were:

- How do different stakeholders describe the role of physiotherapy in the emergency

department?

- What do these stakeholders expect the position to provide in the context of their environment?

2. To consider stakeholder perceptions of how physiotherapy contributes to the emergency department system.

To achieve this aim, questions asked were:

- How do the stakeholders believe physiotherapy will contribute to the effectiveness and efficiency of the emergency department?
- What networks and partnerships are the most effective or important to establish?
- What are the potential implications for strengthening ties with external primary care providers?

The research objective was:

To develop and present conceptual models of physiotherapy's integration into the emergency department system.

The intended outcome of achieving the aims and objective was:

Unique research that fills the niche identified in the research rationale and literature review (Chapter 2).

1.3 Research process

An innovative *interpretivist-systems theory–case study* methodology was developed to explore different stakeholders' perceptions of ED physiotherapy (Anaf, Drummond & Sheppard, 2007). The stakeholders were framed as 'human elements' of the emergency system (Checkland, 1999; Checkland & Scholes, 1990; Dooris, 2005). Each stakeholder group shared a relationship with other 'elements' in the system; having agendas and opinions on what ED physiotherapy involves (Alderfer, 1980; Checkland & Scholes, 1990). Interpretivist theory embraced the individual meaning behind stakeholders' comments, thus encouraging qualitative data collection techniques (Bierema, 2003; Anaf, Drummond & Sheppard, 2007). Comparative case study methodology further dictated data techniques and contained the scope of the study (Luck, Jackson, & Usher, 2006; Stake, 1995). The systems theory perspective made the most valuable methodological contribution as it encouraged the researcher to consider the local environment and emergency culture, key relationships, and different stakeholders' roles and responsibilities within and beyond the emergency department's physical boundaries (Alderfer, 1980; Anaf, Drummond & Sheppard, 2007).

A naturalistic, observational method began the data collection process, with a view to documenting the culture, relationships, operations and roles within both hospitals'

emergency departments (Wells, 1995). Observations were systematically documented in a field journal, which traced the researcher's reflections and set the context for subsequent data analysis. Visual representations of each emergency department were a vital perspective to which the researcher could return over the course of the study to compare and contrast each case's system dynamics. An iterative, 'inverted pyramid' approach was taken to data collection beginning with a broad investigation into emergency patients' perceptions. This was used to formulate a more focussed evaluation of community health professionals' opinions. Emergency department staff's views on ED physiotherapy were the last, most in-depth stage following analysis of the previous stakeholders' findings from their experiences and ideas.

Emergency patient surveys, community health professional questionnaires and in-depth, semi-structured emergency department staff interviews comprised the three discrete data collection methods. Qualitative analysis techniques permitted a deeper understanding of stakeholders' genuine feelings about ED physiotherapy. Patients were asked to describe what they understood ED physiotherapy to be, what sort of patients they understood an ED physiotherapist might treat and how the position assists patients to return home. General Practitioners (GPs), nurses and physiotherapists in the community were asked to describe the extent of their ties to the emergency department, how they believed the position could influence the emergency system's efficiency and effectiveness, and how ED physiotherapy could collaborate with the community health sector. Emergency department doctors, nurses and physiotherapists were interviewed to determine physiotherapy's rightful place in the emergency system, how it could assist in improving service delivery, and the extent of cultural and political barriers that might influence physiotherapy's integration. A total of 127 people participated in the research.

Stakeholder opinions were compared and contrasted across the cases to highlight case variations as well as collective agreement on themes. Recognising that the two sites had fundamental differences, the researcher sought to illustrate regional differences as well as shared viewpoints. A systems theory perspective helped relate stakeholder opinions back into the emergency environment context, reinforcing that each group was one human element of a broader system. Conceptual models were formed from these findings. They represented three components of ED physiotherapy: its physical integration in the department; core clinical competencies; and the ownership of the position. Given the research's iterative nature, the models could not be pre-determined. They emerged only after completion of, and critical reflection upon analysis of all data sets.

1.3.1 Qualitative writing style

The writing style of this dissertation deserves brief comment. The traditional qualitative writing technique is in the first-person, helping to relay the researcher's journey as much as that of the people and places under investigation. It also differentiates from the emotional detachment expected from scientific quantitative data to preserve objectivity (Anaf & Sheppard, 2007b). This research, however, is described from a third-person viewpoint for theoretical reasons.

The research model was designed to take qualitative data from a case study approach and integrate it into a broader systems frame of reference. Systems theory is most commonly described using third-person reference, given its historical scientific origins (Atkinson & Checkland, 1988; Checkland & Scholes, 1990). While interpretivist-based research is typically described in a first-person context, many studies have reported findings using the third-person (see Bursnall, 2003; Daly, Campbell, & Cameron, 2003; Van Belle & Trusler, 2005). Given the heuristic intentions of combining systems theory, case study and interpretivism, and the dominance of systems theory in the methodology, the decision was made to report findings in the third-person so the participants had the most dominant 'voice' in the research.

Retaining a narrative feel for the research meant including as much participant discussion as possible, such as quotations and expressions. Simply, the participants talked and the researcher linked the information together (Curtis, Gesler, Smith, & Washburn, 2000). There was a theoretical requirement to show that the participants produced believable and auditable descriptions of the phenomena under investigation (Curtis et al., 2000). As Rubin and Rubin explain, 'using the conversational partners' words helps to provide detail and realism' (1995, p.261). Many passages derived from interviews were long and complex, and were presented as such to communicate complex ideas (Rubin & Rubin, 1995). Shorter quotations from patient surveys and community health professional questionnaires lacked the narrative substance of the emergency department staff interviews, therefore several different quotes on a similar theme were sourced to build a trail of evidence to confirm theory, and in order to contribute to a rich and nuanced report (Rubin & Rubin, 1995). Participants' voices are extensively embedded in Chapters 6, 7 and 8, a virtue of the overarching qualitative approach to this research.

1.4 Findings

Besides introducing a new *interpretivist-systems theory-case study* methodology, this research uncovered a wide variety of interpretations, concerns, support and ideas surrounding physiotherapy's use in Australian emergency departments. The majority of stakeholders strongly identified with physiotherapy having a role in acute musculoskeletal medicine and mobility, consistent with both the ED physiotherapy literature (Jibuike et al., 2003; Kempson, 1996; McClellan et al., 2006; Richardson et al., 2005) and literature surrounding perceptions of the physiotherapy profession (Lee & Sheppard, 1998; Sheppard, 1994; Struber, 2004). Clinical competencies collectively agreed upon between stakeholders and across both cases included musculoskeletal medicine, mobility, respiratory management, aged care and education. Although there were agreed roles, different stakeholder groups had widely varying interpretations of ED physiotherapy, as summarised below.

1.4.1 Emergency department patients' perceptions

Patients view physiotherapy as a profession linked strongly to treating musculoskeletal injury and illness, often sports-related, due to its grounding in manual techniques such as massage and manipulation. The cases' agreed thoughts about the profession's contribution towards emergency department service delivery included improved quality of information, peace of mind and overall enhanced patient recovery. There were numerous differences between the two cases' ED physiotherapy roles. For example, the Austin cohort more readily described the role as providing comfort and support, education, respiratory care and falls management, whereas the Townsville cohort identified it as providing improved emergency department efficiency and better pain management for patients. Comprehensive analyses and case comparisons are provided in Chapter 6.

1.4.2 Community health professionals' perceptions

General practitioners, nurses and physiotherapists are inclined to view ED physiotherapy from the perspective of how it enhances the emergency system. It can offer more client-centred care, improved clinical standards and more efficient patient management. Community health professionals demonstrated less case variation than patients in their understanding of clinical roles, citing mobility and musculoskeletal management as the foremost responsibility. Key case comparisons included the Townsville cohort anticipating provision of a respiratory service, whereas the Austin cohort believed education of patients is a dimension of care better provided by physiotherapists. These findings are explored in Chapter 7.

1.4.3 Emergency department staff's perceptions

Emergency department staff discussed how professional agendas and the emergency department's culture shape physiotherapy's role. They commented on roles expected of physiotherapy and those they could see superseding their own. The Townsville Hospital, which has no official implemented physiotherapy role, has a stronger culture of apprehension among doctors and nurses about ED physiotherapy.

Key case comparisons include the Austin cohort seeing ED physiotherapy as improving the uptake of evidence-based clinical practice therein, requiring a generalist skill base and having a role in atypical clinical scenarios such as managing vestibular disorders. In contrast, the Townsville cohort saw the position as having an important role in managing Indigenous patients' health needs, improving patient mobility, respiratory management and requiring that physiotherapy equipment was permanently located in the emergency environment. Both cases agreed that ED physiotherapy adds an important dimension of holism, education and efficiency that is otherwise difficult to enforce in the department's fast-paced culture. While recognising that collaboration with ED physiotherapists is essential to improving patient care and streamlining the department, there remains an undercurrent of concern about risk of conflict based on the shift in professional roles and responsibilities among certain staff. Chapter 8 examines these themes.

1.4.4 Conceptual models of emergency department physiotherapy

Three categories of conceptual models summarise the research findings, illustrating 1) physiotherapy's integration into the emergency department; 2) core clinical competencies; and 3) ownership of ED physiotherapy. Not to be confused with clinical pathways or working models, these are diagrams of ED physiotherapy formed from collective stakeholder views and case agreements (Lopopolo & Keehn, 1997; O'Meara, 2002), developed so that the Austin and Townsville hospitals may critically reflect on their own emergency systems to determine whether they meet stakeholder ideas and demands. The conceptualisation encourages emergency *teams* to engage in discussion about how physiotherapy can best meet their hospital's needs, considering the views of other 'human elements' and how it changes the 'system' (Berwick, 1996), rather than the restrictive tendency to trouble-shoot problems only from within their profession.

This research intends to encourage readers to consider modifications to the emergency system from a holistic perspective prior to nation-wide implementation of the ED physiotherapy position. A considered approach to ED physiotherapy is likely to foster a

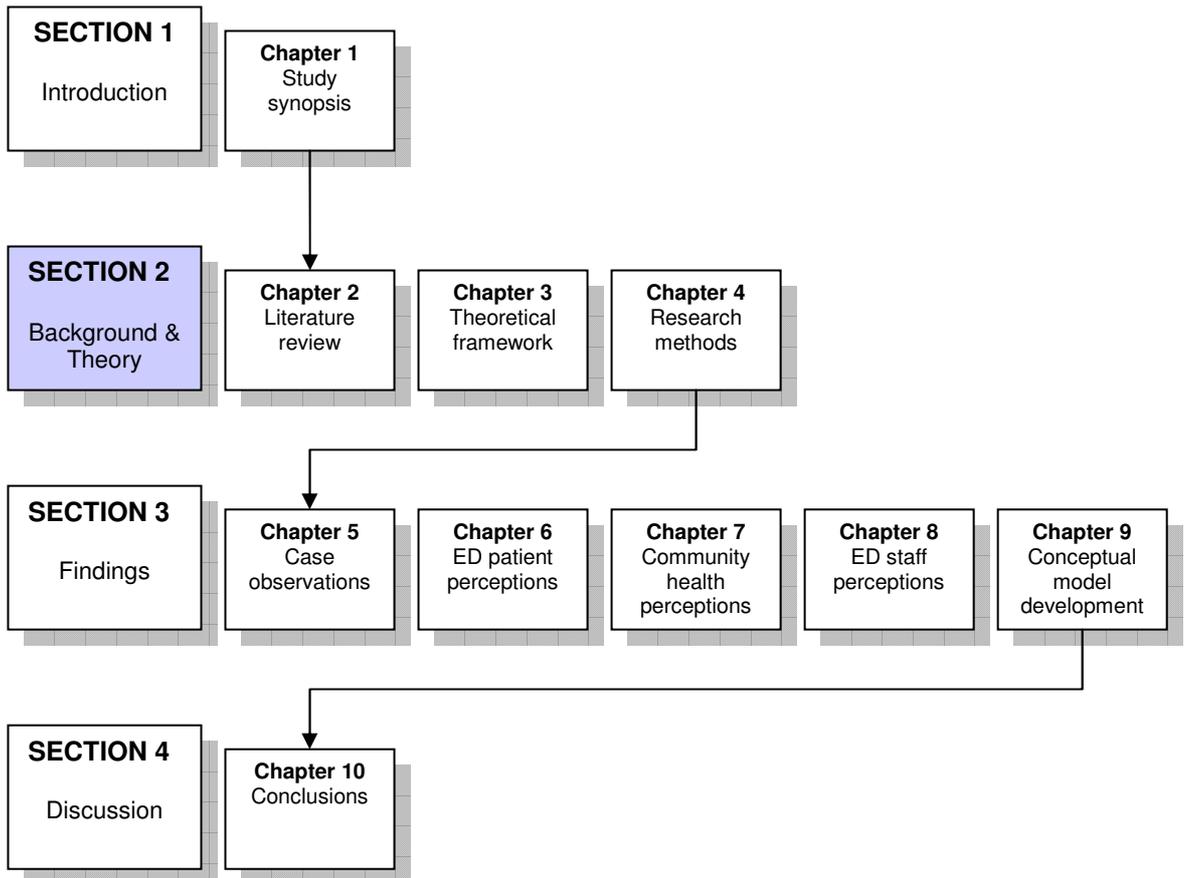
culture of respect and understanding for what the position can offer the Australian health system, especially when it is seen to recognise others' perspectives. The conceptual models have important implications for clinician recruitment and responsibilities, as they represent comprehensive, up-to-date needs and ideas surrounding ED physiotherapy in an Australian context.

1.5 Future research directions

This thesis is one of the most comprehensive qualitative investigations of ED physiotherapy to date. Further research can capitalise on its findings by applying an action-research approach to establishing a physiotherapy service; action research being the traditional method of choice for systems methodologies. The systems theory perspective is useful in considering physiotherapy as part of a broader network. Additional research directions could include substituting 'elements' with diverse components of the emergency system, including different clinical conditions, resources or hospital departments. Future research should be guided by the critical influence of professional collaboration on the success of physiotherapy interventions, especially linking in to the community sector for longer-term patient management. Finally, a concerted effort to supplement the dearth of empirical evidence can only strengthen physiotherapists' argument that they offer effective, evidence-based approaches to patient management, reinforcing physiotherapy as a credible addition to the emergency department system.

SECTION 2

BACKGROUND & THEORY



2 Literature Review

2.1 Introduction

Physiotherapy has a strong affiliation with the acute care and rehabilitation of diverse clients and places increasing emphasis on promoting health in the community (Higgs, Refshauge, & Ellis, 2001). An overarching commitment to individuals' health and well-being has allowed physiotherapy to branch out into a variety of clinical streams. Emergency department physiotherapy, the central tenet of this dissertation, is one of the newest applications of clinical care to both the physiotherapy profession and the emergency department system. Despite progressive implementation within emergency departments in Australia (Rutledge, 2005; Taylor et al., 2004) and overseas (Jibuike et al., 2003; Kempson, 1996; McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005), research tracing the impetus for developing ED physiotherapy, its effectiveness in the clinical emergency department environment and its future in Australian health care is scarce.

This literature review sets the thesis context by focusing on pertinent themes related to the rise of ED physiotherapy. Section 2.2, entitled '*socio-political framework*', explores the physiotherapy profession's fundamental principles. It specifically charts physiotherapy's evolution to permit its role in the emergency department and describes the latest Australian health reform agendas that have enabled this move.

Section 2.3, entitled '*emergency department service delivery issues*', explores current problems affecting Australian emergency departments, which face continuous pressure to appropriately allocate resources to patients and staff, and improve their service structure (Anaf, 2005; Hough, 2003). Physiotherapy's contribution to service delivery issues such as access block (Cameron & Campbell, 2003a; Cameron, Scown, & Campbell, 2002; Dunn, 2003) or reducing non-urgent patient attendances (Lee et al., 2003; Malone, 1998) is rarely researched. Exploring these issues helps align physiotherapy with emergency department service deficits and niches in order to further understand its value to the emergency system.

Section 2.4, '*stakeholders in the emergency department*', briefly evaluates professional relationships in the emergency department system. As this dissertation explores multiple stakeholder perceptions of physiotherapy's contribution to the emergency department, its integration within the emergency department system is an important theme. While physiotherapy has established networks with other allied health professions and in other

hospital and community settings (Capiluoto, 2000), this section illustrates some of the more prominent professional relationships in the emergency department system. It also explains stakeholder group selection.

Section 2.5, '*describing emergency department physiotherapy: current evidence*' presents a narrative literature review of ED physiotherapy research. It describes an ED physiotherapist's roles and responsibilities to provide the context of the clinical field and evaluates the available literature's methodological quality.

The summation of this literature will establish the appropriate niche for conducting this research – *exploring multiple stakeholder perceptions of emergency department physiotherapy* – to make a significant contribution to the physiotherapy evidence base.

2.2 Socio-political framework

2.2.1 Influences on the physiotherapy profession

The profession of physiotherapy is often referred to as an 'allied health' member: one of a cluster of professions including occupational therapy, speech pathology, nutrition and dietetics, and social work. Physiotherapy disseminates clinical knowledge, largely through multidisciplinary team structures, to patients in both acute and community settings (Higgs et al., 2001). Traditionally this involves examining, diagnosing and managing musculoskeletal, neurological and respiratory disorders to enhance functional independence and well-being. Allied health professions in certain settings, such as the rehabilitation ward, have defined clinical objectives that make each profession unique, although there is some overlap in delineation of tasks and responsibilities, for example the cross-over between physiotherapy and occupational therapy in managing upper limb paresis following cerebro-vascular accidents (Capiluoto, 2000; Rodgers et al., 2003). While physiotherapy graduates' skill base allows them to clinically reason assessment strategies and management options as independent practitioners, breadth and similarity in the medical knowledge base means physiotherapy shares knowledge with other allied health fields (Booth & Hewison, 2002; Smith, Roberts, & Balmer, 2000) and has a good understanding of different health professionals' roles, thus making it a profession well suited to multidisciplinary teams.

Physiotherapy is a diverse profession with a role in many health team settings (Higgs et al., 2001) including the emergency department (Anaf & Sheppard, 2007c), the hospital rehabilitation ward (Wottrich, Stenstrom, Engardt, Tham, & von Koch, 2004) and the intensive care unit (Stiller, 2000). While many of the professions in each team are the same (e.g. doctors, nurses, physiotherapists, occupational therapists, social workers) the clinical

environment demands and goals require individual professions to adapt their core skills to meet each setting's objectives. For example, doctors become rehabilitation specialists or intensivists, and physiotherapists become acute care clinicians or ED physiotherapists. Patients offer different challenges to the health team, having varying expectations of the care they will receive and demanding different levels of intervention depending on the setting (Larsson & Gard, 2006). Core goals and training unify the physiotherapy profession across the different clinical streams, whether inpatient, outpatient or community-based. Varied knowledge, skills and clinical practice must be applied to fulfil the particular setting's mission.

The Australian Physiotherapy Council (APC), which regulates standards of knowledge and skills taught within the profession, specifies that physiotherapists who have completed their undergraduate training in Australia must display proficiency in musculoskeletal, cardiopulmonary and neurological physiotherapy, and electrophysical agents¹ (Australian Physiotherapy Council, 2006). The highest levels of clinical evidence for physiotherapists' effectiveness in different settings (randomised controlled trials and systematic reviews) reaffirms the profession's usefulness (and research focus) in the musculoskeletal and neurological physiotherapy fields, while there is substantial evidence for therapeutic interventions in paediatrics, ergonomics and women's health (Moseley, Herbert, Sherrington, & Maher, 2002). Within the regulated standards of knowledge and through their basic training, physiotherapists acquire a core set of skills including knowledge of anatomy and physiology (Australian Physiotherapy Council, 2008), musculoskeletal and respiratory care (Australian Physiotherapy Council, 2006; Herbert, Maher, Moseley, & Sherrington, 2001), clinical reasoning to determine diagnoses and management options (Edwards, Jones, Carr, Braunack-Mayer, & Jensen, 2004; Williams et al., 2007), mobility management (Dalley & Sims, 2001) and exercise prescription (Smidt, de Vet, Bouter, & Dekker, 2005).

Some hospital physiotherapists have broadened their skill set to include certain professional services traditionally reserved for medical practitioners, such as ordering x-rays, blood tests or magnetic resonance imaging (MRI), and actively discharging patients. Physiotherapists in the UK were the first known clinicians to have these extended clinical privileges in the emergency setting, working autonomously with minimal consultation with other doctors and nurses (Daker-White et al., 1999; Gardiner & Wagstaff, 2001; Jibuike et al., 2003). One impetus for exploring ED physiotherapy in an Australian context is that little information

¹ "Electrophysical agents are used by physiotherapists to treat a wide variety of conditions. These agents include both electromagnetic and sound waves, in addition to muscle- and nerve- stimulating currents. In part, these techniques are used to induce tissue healing" (ter Haar, 2002, p.3).

exists about what physiotherapy can offer in this non-traditional clinical setting. While Australian researchers have published limited studies describing what Australian practice encompasses, these have been descriptive, providing a basic understanding of the physiotherapist's place and collaboration with other professions in the emergency setting (Anaf & Sheppard, 2007a; Taylor et al., 2004). There is scarce evidence of types of patient conditions managed, and physiotherapists' clinical roles and professional scope of practice in the emergency department (Anaf & Sheppard, 2007a). No known studies examine how different emergency professions have responded to physiotherapy assuming this new role. Nor has there been a comprehensive analysis of patient outcomes and other impacts with ED physiotherapy. Therefore, there is potential for exploring ED physiotherapy in Australia from many angles.

Three organisations regulate physiotherapy in Australia and define its scope of practice: the World Confederation of Physical Therapists (WCPT); the APC; and the Australian Physiotherapy Association (APA), which acts largely as a professional advocacy body in the tradition of the Australian Medical Association (AMA) or the Australian Nursing Federation (ANF). Table 1 outlines each organisation's definition of physiotherapy. Physiotherapy's role correlates strongly with movement dysfunctions, whether situated in a rehabilitation ward (Capiluoto, 2000), providing post-operative care or in a community setting. Movement dysfunctions remain a consistent theme across the definitions in Table 1, which try to reflect functional independence, a core value of modern health care (Granger, 1998).

Emergency department physiotherapists not only diagnose and treat acute injury and illness within this definitional framework, but also educate patients and follow-up with their community management while liaising with tertiary and community health professionals (Anaf & Sheppard, 2007a; Higgs et al., 2001). Thus, physiotherapy straddles primary (first level of response by the health care system when a patient requires care, and the promotion of a healthy society) and secondary (a response within the health system to treating patients' injuries and illnesses) (Boerma, 2006) health care boundaries, incorporating educative and lifestyle strategies to prevent illness as well as using manual techniques to treat and minimise the effects of acute conditions (Australian Physiotherapy Council, 2008). Yet there remains little clinical evidence for physiotherapy's use in, or impact on the emergency department system, especially as a secondary (or treating) health care strategy. Only three studies have been identified showing that Australian ED physiotherapists make a positive impact on improving patient satisfaction with emergency care or illustrating the potential to speed up the discharge process (Anaf & Sheppard, 2007a; Gordon, 2007; Rutledge, 2005). Anaf and Sheppard (2007a) propose there is considerable scope to explore how Australian

ED physiotherapy influences patients' well-being as well as determining its effect on service delivery problems such as rates of hospital admission from the emergency department.

Table 1: Definitions of physiotherapy

| Professional Body | Definition Proposed |
|---|---|
| <i>World Confederation of Physical Therapists</i> | ... providing services to people and populations to develop, maintain and restore maximum movement and functional ability throughout the life-span. Physiotherapy includes the provision of services in circumstances where movement and function are threatened by the process of ageing or that of injury or disease. Full and functional movement are at the heart of what it means to be healthy... Physiotherapy is concerned with identifying and maximising movement potential, within the spheres of promotion, prevention, treatment and rehabilitation. Physiotherapy involves the interaction between physiotherapist, patients or clients, families and care givers, in a process of assessing movement potential and in establishing agreed upon goals and objectives using knowledge and skills unique to physiotherapists (World Confederation of Physical Therapists, 1999, p. 4) |
| <i>Australian Physiotherapy Council</i> | ... health care professionals concerned with the assessment, treatment and prevention of dysfunction and impairment of movement in clients of all ages and within a wide range of contexts (Australian Physiotherapy Council, 2002) |
| <i>Australian Physiotherapy Association</i> | ... people with musculoskeletal, neurological and cardiopulmonary problems. Treatment interventions are based upon sound principles of clinical reasoning, decision-making, diagnosis and evidence based practice. They include thorough assessments before, during and after treatment, documentation of the assessment findings and the interventions applied, and evaluation of the outcomes of these interventions. (Australian Physiotherapy Association, 2000) |

2.2.2 General literature review search strategy

Three key developments were identified that allowed physiotherapy to work within the scope of emergency medicine and nursing in Australia:

1. Physiotherapy becoming a first-contact health profession.
2. The decision to permit clinical specialisation in physiotherapy.
3. The advent of Casemix-style systems within hospitals.

These three developments, proposed by Cathy Nall, the immediate past-president of the APA (C. Nall, personal communication, 2006), have advanced the scope of physiotherapy practice from the 1970s to the present. First-contact practice has changed the entire course of the profession while the implementation of Casemix systems has inadvertently guided physiotherapy's evolution into the emergency system (C. Nall, personal communication, 2006). However, no known literature reviews chart physiotherapy's evolution into the emergency system. Therefore, the above developments were used to inform a comprehensive literature search to further investigate how Australian ED physiotherapy emerged.

The databases Medline, Cinahl, Cochrane and PEDro were explored using the terms 'autonomous practice', 'first-contact', 'specialisation' and 'casemix' in Boolean combination with 'physiotherapy'. Very little research was found specific to both physiotherapy and ED physiotherapy, so grey literature provided a substantial amount of information in the absence of rigorous scientific studies. Grey literature was sourced through Google and Google Scholar search engines, websites and reports by prominent health, physiotherapy and emergency organisations such as the Australian Institute of Health and Welfare (Australian Institute of Health and Welfare, 2004a, 2004b, 2004c, 2006), the APA (Australian Physiotherapy Association, 2004, 2005; Philip, 2006), the APC (Australian Physiotherapy Council, 2006, 2008), the Australasian College of Emergency Medicine (ACEM) (Australasian College of Emergency Medicine, 2000, 2004a, 2004b, 2005) and the Chartered Society of Physiotherapists from the United Kingdom (CSP) (Aston et al., 2006).

While the gold standard of literature reviews is evaluating scientifically conducted research that can be measured by a hierarchy of evidence (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000), this could not be achieved given the dearth of scientific ED physiotherapy literature. Reports, media releases and clinical updates, while low in the hierarchy of evidence (e.g. levels 4 and 5 indicating case studies or expert opinion only), are appropriate to provide a framework of ED physiotherapy's Australian origins. The clinical effectiveness of ED physiotherapy is explored separately in section 2.5.

Figure 2 portrays a timeline of Australian ED physiotherapy development as a precursor to more detailed discussions about first-contact practice, specialisation and Casemix-style systems.

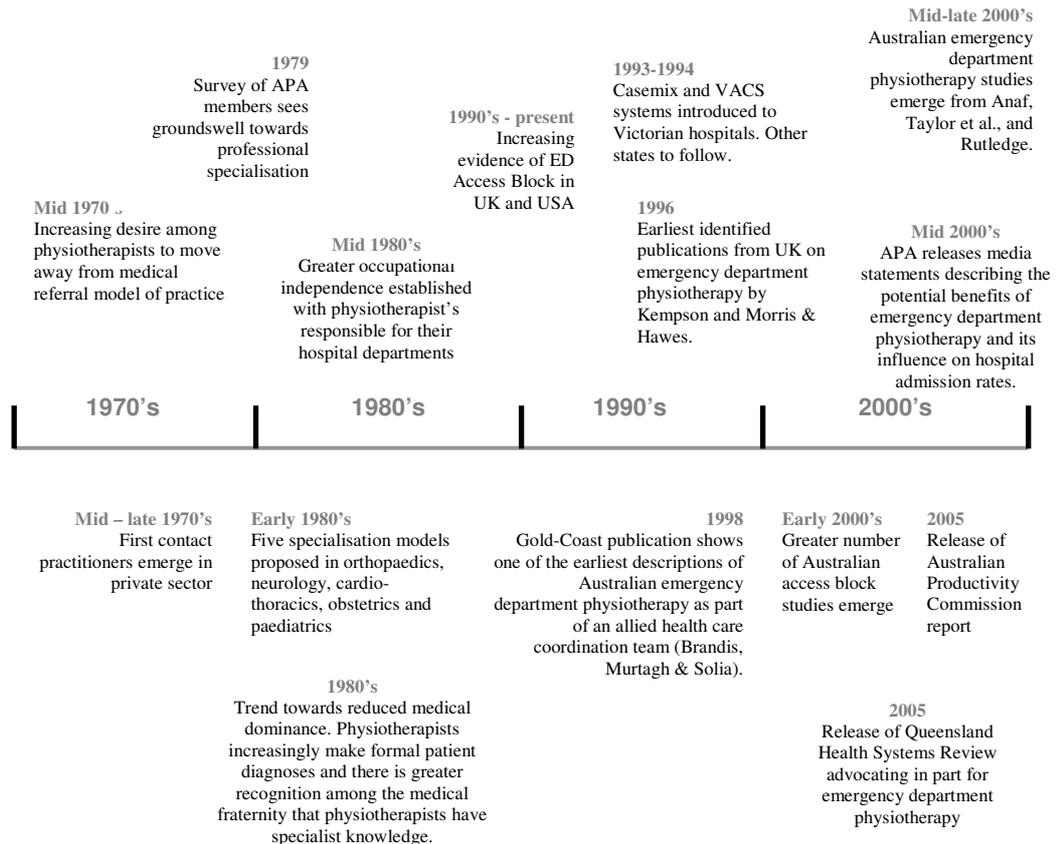


Figure 2: Timeline showing emergency department physiotherapy development

2.2.2.1 First-contact practice in physiotherapy

From the 1950s to the 1970s the physiotherapy profession advocated having direct medical supervision to guide clinical diagnoses of patients and recommend management options (Galley, 1976). The profession saw this as an important step in aligning itself with the medical fraternity to avoid being considered an 'alternative health service' (Bentley & Dunstan, 2006; Galley, 1976), drafting the following as the first tenet in the APA's list of ethical principles:

It is unethical for a member to act in a professional capacity except on referral by a registered medical or dental practitioner (cited in Galley, 1976, p.117).

Prior to the 1970s there was little clinical specialisation or professional autonomy within physiotherapy. Members of the profession had a wealth of clinical knowledge and training but felt restricted in what they could offer their patients. Despite a willingness to assist in primary health care² as well as secondary health management, physiotherapists were dependent on medical and dental practitioners' judgement to refer patients to their services

² Primary health care is a strategy to promote health and well-being to avoid illness, disability and the need for secondary (treating) health care.

(Galley, 1976) commonly for muscle re-education³ for poliomyelitis, general massage for musculoskeletal conditions, and the management of respiratory and post operative conditions as acute care management (Bentley & Dunstan, 2006).

In the 1970s physiotherapy began to move away from the medical referral model and the first APA ethical principle (Galley, 1976; Struber, 2003) and in the late 1970s it became a first-contact health profession due to physiotherapy professional bodies' advocacy and the decision to increasingly self-regulate the profession. Changed professional status demanded increased accountability in physiotherapy service quality and availability to the public (Grimmer et al., 2000), while professional autonomy:

... [entitled] individual physiotherapists [in the private and public sector to] have the freedom to exercise professional judgement in health promotion, prevention and the care and treatment of clients within the limits of the therapist's prevailing knowledge and competence (WCPT, 1995, p.12 in Higgs et al., 2001).

This decision more than two decades ago to enhance professional autonomy through self-regulation and management, and permit clinical specialisation remains a significant precursor to the present evolution into ED physiotherapy (Figure 2).

Occupational independence in hospital-based physiotherapy arose from an increased push for professional self-management, such as having physiotherapists as department heads (Ovretveit, 1985). Greater professional autonomy involved a reciprocal reduction in dominance of the corresponding professional group, in this case the medical practitioners (doctors). The doctors governing hospital departments increasingly withdrew their control over the physiotherapy departments as physiotherapists demonstrated competency in managing their workloads and department administration (Ovretveit, 1985). Gradual reduction in medical dominance over physiotherapy is evidenced in a study by Wong, Galley and Sheehan (1994), which found that between 1982 and 1989 Australian medical practitioners made less formal diagnoses of patients' conditions prior to referring to hospital outpatient physiotherapists, reflecting greater confidence in physiotherapy's ability to clinically reason the cause of patients' problems ($p < 0.001$). There was a statistically significant reduction in doctors recommending treatment modalities ($p < 0.001$), and doctors were increasingly likely to request physiotherapy as a specialist intervention option for patients ($p < 0.001$) (Wong et al., 1994). Even so, first-contact practitioners were more prominent in private practice than in the hospital sector, subsequently aligning images of first-contact management of patients with musculoskeletal conditions, which formed the bulk of private practice caseloads (Wong et al., 1994).

³ Muscle re-education is more appropriately described as 'rehabilitation' in the present day.

Current public perception of what physiotherapy offers remains strongly centred on exercise prescription and acute musculoskeletal management, in contrast to the majority of hospital-based services focussed on community care and integrated service delivery within multidisciplinary teams (Struber, 2003). Sheppard (1994) confirmed that public awareness of the physiotherapy profession mostly reflected musculoskeletal management, with the least information known about physiotherapy's role in women's health and paediatrics, a situation that still creates feelings within the profession that there is a lack of clear identity about what can be offered to patients (Struber, 2003). This situation is not helped by large attrition rates of physiotherapists in Australia and critical workforce shortages, which is also true of the UK (Roskell & Cross, 2003; Williams et al., 2007). Thus, while physiotherapists are one of Australia's largest allied health professions, there is a risk that to maintain services for the community in the face of workforce shortages and attrition, the profession defaults to its traditional ward- and community-based roles, with minimal scope for progressive career pathways and expanded professional opportunities (Forster, 2005). This is contrary to the profession's eagerness to assume more innovative tertiary hospital roles such as ED physiotherapy, and making autonomous decisions about patients' management in orthopaedic surgical clinics or triage musculoskeletal injuries in outpatient clinics (McMeekan, 2007). There are conflicting opinions within the profession as to whether the historical emphasis on musculoskeletal and movement disorders is appropriate for the future of physiotherapy (Galley, 1976; Lee & Sheppard, 1998; Sheppard, 1994), or if it will limit the possibilities for extended scopes of practice such as injections, blood tests and more complex radiologic requests (McMeekan, 2007; Oldmeadow et al., 2007) because it restricts physiotherapy's clinical identity (Roskell, Hewison, & Wildman, 1998).

Research has briefly detailed changes in clinical boundaries between physiotherapists and doctors (Daker-White et al., 1999; Jibuike et al., 2003; McMeekan, 2007; Nancarrow & Borthwick, 2005), such as in ordering MRIs or triaging patients, which pre-empted the creation of ED physiotherapy as an advanced or extended scope of practice (see Table 2 on thesis p. 22) (Bethel, 2005; McMeekan, 2007). Disciplinary boundaries in health have shifted due to pressures such as staffing shortages in allied health, nursing and medicine, necessitating looking at how different professions can supplement 'holes' in clinical care (Nancarrow & Borthwick, 2005). However, much of the research is beginning to date and there has been little debate through editorials or studies as to whether first-contact practice, with a shift towards greater clinical autonomy is the primary impetus behind ED physiotherapy. This greater autonomy and enhanced professional skills are synonymous with specialisation (Jull & O'Sullivan, 2006), which deserves consideration as the next contributing development in the framework of ED physiotherapy in Australia.

2.2.2.2 Specialisation in physiotherapy

Specialisation implies expertise in a particular clinical field, making it a key step in maturing the physiotherapy profession to its current autonomous status (Bennett & Grant, 2004; Jull & O'Sullivan, 2006). Early discussion of physiotherapy specialisation occurred in the mid- to late-1970s, when a random survey of APA members generated ideas about appropriate specialisation models (Carr & Shepherd, 1996). Five key domains were selected in the 1980s: orthopaedics (manipulative and sports); neurology; cardio-thoracics; obstetrics and gynaecology; and paediatrics (Bennett & Grant, 2004). Specialisation reflected the growing complexity of knowledge beyond the general clinical scope of practice. When other health professions realised the extent of these clinicians' expertise, demands for specialist services increased (Bennett & Grant, 2004; Carr & Shepherd, 1996) and physiotherapists had the opportunity to advance their career by being rewarded professionally for outstanding clinical knowledge and service (Robertson, Oldmeadow, Cromie, & Grant, 2003). This also allowed a wider clinical scope, recognising challenging fields such as rural and remote practice (Bennett & Grant, 2004), and the present option of ED physiotherapy (Australian Physiotherapy Association, 2005).

Increasing pressure for Australian health services to evaluate and treat patients within cost-effective parameters (Robertson et al., 2003) has also increased demand for specialist physiotherapy services. Strategies have focussed on reducing patients' stay in hospital, greater management of patients in the community, and increased education and health promotion for patients (Anaf, 2005; Anaf & Sheppard, 2007a; Australian Medical Association, 2004; Germov, 2002; Holland et al., 2005). Hospital management boards found it appealing that a health profession other than medicine and nursing could offer diagnoses, acute injury management, education and continuity of care to people within the hospital setting and upon discharge (Robertson et al., 2003). In return, the physiotherapy profession has considered progressively broadening its scope to involve non-traditional applications of clinical practices, for example the development of orthopaedic screening clinics, uniting physiotherapists and orthopaedic surgeons to make clinical judgements about non-urgent patient surgical management (Oldmeadow et al., 2007). Traditionally, only surgeons who made clinical decisions for patients staffed orthopaedic screening clinics. Including physiotherapists in these teams has allowed analysis of general practitioner referrals; conducting relevant musculoskeletal tests; ordering radiological requests in the hospital setting; and considering non-surgical options with patients prior to surgical consultation (Oldmeadow et al., 2007). This typifies an extended practice role as specialist orthopaedic physiotherapists are making clinical judgements and requesting information usually reserved

for surgeons (Oldmeadow et al., 2007). Within the last decade of ED physiotherapy practice, non-traditional roles have included proposals for limited injecting rights (Australian Physiotherapy Association, 2005; Gardiner & Wagstaff, 2001), and the ordering and interpretation of advanced diagnostic tests such as MRI (Jibuike et al., 2003).

Emergency department physiotherapy as an evolving clinical field may be considered a specialist service; either an extended scope of practice or an advanced clinical practice (Anaf, 2005; Anaf & Sheppard, 2007a). An advanced practice implies that the clinical setting is new to the profession and requires the knowledge of a senior, experienced clinician, differing from an extended scope of practice where the professional roles and interventions extend beyond normal practice (Kersten et al., 2007). Thus, in the Australian context, ED physiotherapy fits more accurately within an advanced clinical practice framework, providing physiotherapeutic assessment and treatment to non-urgent patients in the emergency department setting, ranging from musculoskeletal management and respiratory care to providing gait aids and clinical information (Anaf & Sheppard, 2007a; Kempson, 1996). However, similar to rural and remote practice, it has not been recognised as a bona-fide clinical specialty, perhaps because it demands a highly-skilled 'specialist-generalist', with the breadth of understanding being as important as the depth (Anaf, 2005), similar to rural and remote practitioners (Sheppard & Nielsen, 2005). The specialisation model structure is specific to a single clinical field, perhaps indicating that within the profession a generalist skill base is harder to recognise and define than a single specialised area.

Variations in terminology are important, as they define the role more accurately in the emergency system context (which varies internationally). For example, physiotherapists' administration of injection therapy has greater momentum in the UK under the banner of an 'extended scope of practice' (Kersten et al., 2007) than in Australia where it has yet to be applied. It is not accepted practice in Australia for physiotherapists to take blood tests or inject patients - extended roles - firmly situating current models of ED physiotherapy as an 'advanced clinical practice'. Table 2 illustrates the subtle differences between these commonly used terms.

Table 2: Variations in physiotherapy terminology

| Terminology | Definition |
|--|--|
| <i>General Physiotherapist</i> | The scope of practice requires breadth of knowledge and skills to treat a range of conditions. They may progress to 'specialist generalist' level. They may be a specialist in a specific area but treat a range of conditions (Bennett & Grant, 2004). |
| <i>Specialist Physiotherapist</i> | Postgraduate qualifications or equivalent recognised training and experience in a specialised area of practice (currently identified as APA Titled membership ⁴). A large proportion of clients present for treatment of a particular condition or area of the body. They are invited to lecture to/ teach peers regarding a specialised area of practice (Bennett & Grant, 2004). A clinical specialist, as they might also be labelled, is "...a person acknowledged formally by the professional group to possess a high standard of knowledge, expertise and competence within a recognised area of physiotherapy" (Carr & Shepherd, 1996, p.12) |
| <i>Extended Scope Physiotherapist</i> | Required to have a considerable depth of academic knowledge, clinical skills and experience in their area of specialisation (and)...may involve experience in more complex treatment as well as the ordering and interpreting of tests of different types and performing minor medical procedures (Kersten et al., 2007; Robertson et al., 2003). |
| <i>Advanced Practice Physiotherapist</i> | Physiotherapists with particular expertise have undertaken postgraduate inter-professional education and training to acquire additional skills and competencies, enabling them to perform additional controlled acts, under medical directives and/ or delegation (Woodhouse, 2006). May also work as a generalist physiotherapist in a new clinical environment (Nall, 2005a). |
| <i>Consultant Physiotherapist/ Clinical Specialist</i> | Must, by implication, have a considerable depth of professional excellence and experience. . . In the private sector consultant therapists should attract an appropriate level of fees and in the public sector consultant therapists should attract a commensurate salary (Robertson et al., 2003). |

Traditionally, physiotherapy was recognised as a 'natural' therapy, using manual techniques and exercise to improve health. Galley (1976) described physiotherapy's earlier identity as:

⁴ APA titled membership implies that the physiotherapist has been recognised by the APA as having specialised knowledge in a particular clinical field.

. . . (offering) the patient treatment within the framework of traditional medicine which is 'natural' too, in that surgery or the prescription of drugs is not undertaken by its practitioners. What is important to note is that physiotherapists do not see themselves as being an 'alternative' to the medical practitioner. Rather, they use 'natural' methods of treatment which they accept are often complementary to those that only a registered medical practitioner is licensed to perform (p.117).

However, with the advent of extended scopes of practice, such as ED physiotherapy as practiced in the UK (Jibuike et al., 2003; McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005), which has instigated consideration of limited injecting rights (Australian Physiotherapy Association, 2004; Kersten et al., 2007) or physiotherapists potentially conducting medical procedures such as bronchoscopy in the Australian context (Australian Physiotherapy Association, 2004), the profession must reflect on whether its early identity applies today. There appears to be a paradigm shift from Galley's definition of the physiotherapy role as a 'natural' therapy only (Galley, 1976).

The APA has acknowledged that the changing face of physiotherapy scopes of practice will raise debate about clinical responsibility if clinicians legitimately consider themselves an alternative to a medical or nursing practitioner for the management of acute musculoskeletal injuries (Anaf & Sheppard, 2007a; McClellan et al., 2006). However, given Australia's focus on ED physiotherapy as an advanced practice, very little has been documented about changing legal parameters, as emergency doctors retain overall responsibility for patient care (Australasian College of Emergency Medicine, 2005).

It is not uncommon for emergency departments to establish advanced allied health and nursing roles and a system of multidisciplinary teams to manage all or part of the emergency care process for certain types of patients e.g. major trauma, cardiac arrest, sexual assault etc. As the designated medical practitioner in charge of the ED is accountable for the clinical and operational performance of the ED at any point in time, they retain primary responsibility for patient care irrespective of who participates in the model of care within the ED (Australasian College of Emergency Medicine, 2005, p.3).

This would change if ED physiotherapy became an extended scope of practice in Australia.

2.2.2.3 The advent of Casemix-style systems

Casemix is a national organisational system allowing hospital departments to classify inpatient care episodes (Brock, Reid, Goldie, & Greenwood, 1998). It registers and classifies hospital services, and permits reimbursement of hospital and medical staff costs (Steinbusch, Oostenbrink, Zurbier, & Schaepkens, 2007). The Casemix system was first introduced to Victoria in 1993-1994, which was also the first Australian state to implement ED physiotherapy (Duckett, 1998). Casemix facilitates a process of hospital departments having

capped budgets, allocated from the annual hospital budget (Duckett, Jackson, & Scully, 1997). Departments must anticipate the patient occasions of service for the year and allocate staff and resources accordingly; capped budgets give little leeway to exceed funding (Duckett, 1998; Duckett et al., 1997). This pressures hospitals to achieve the dual role of cost and resource cutting to stay within their budget while theoretically assuring a high standard of health care (Brock et al., 1998).

In Victoria, emergency departments operate on a separate yet similar system to Casemix: the Victorian Ambulatory Classification System (VACS) (Royal Children's Hospital, 2008). Queensland has since adopted the same principles of funding using the Queensland Ambulatory Classification System (QACS) (Gordon, Green, & Eagar, 2000). VACS/ QACS fund emergency patients based on attendance to the department weighted by triage category (Royal Children's Hospital, 2008). However, triage category alone is not an indicator of a patient's overall health status. Complications arise with VACS/QACS when an injury or illness, assigned a lower level triage category, affects a patient with numerous other comorbidities or a difficult social situation. Under these circumstances staff must attend to all of the patients' needs as relevant to the condition, resulting in either admission to hospital or delayed discharge from the department; but they have only been allocated funding to provide care for the initial presentation (Brock et al., 1998; Royal Children's Hospital, 2008). Emergency departments risk overusing resources and working outside of their budget as a result.

Emergency department physiotherapy has been implemented to provide an early intervention service for lower-level triaged patients as a response to the pressure to keep within the allocated departmental budget and to manage service delivery issues such as access block (Stuart, 2004). Access block in particular is known to be a major contributor to emergency department inefficiency (Stuart, 2004). To address these inefficiencies, the intention is for physiotherapists to assess, diagnose, manage and discharge patients with minor musculoskeletal-based conditions, thereby reducing these patients' waiting times and overall time spent in the department (Anaf & Sheppard, 2007a; Duckett, 1998; McClellan et al., 2006; Royal Children's Hospital, 2008). Emergency department physiotherapists can easily collaborate with the community sector and other health professionals to further assist this process (Anaf & Sheppard, 2007a). They can also provide necessary scans and referrals to community health professionals (Anaf & Sheppard, 2007a; Jibuikie et al., 2003). This supports the VACS/QACS ideology because patients assigned lower triage categories and with certain types of conditions are attended to and discharged efficiently, helping improve the department's overall productivity which results in being financially rewarded in

subsequent budgets (Brock et al., 1998).

Critics of Casemix-style funding oppose its fundamental principles which penalise emergency departments for providing ‘excessive’ patient care. For example, prior to Casemix’s implementation in Australia, an American study suggested that elderly patients were at particular risk of being discharged from hospital ‘quicker and sicker’ in an effort to demonstrate efficient service delivery (Kosecoff et al., 1990). Yet it is much harder to find evidence of inappropriate patient discharges as a direct result of the Casemix or VACS/QACS systems in an Australian context. Critics argue that nominating Diagnosis-Related Groups⁵ (DRG) in Casemix or triage categories in VACS/QACS for patient problems can not accurately reflect the potential for subtle variations in cause of condition, rates of improvement, and the severity of injury or illness (Brock et al., 1998). Brock et al. (1998) argue that hospitals are unfairly financially penalised for these features, which extend beyond the realms of control, because Casemix does not adjust hospital funding for cases requiring a greater drain on resources than others. This increases the potential risk of hospitals ‘skimming’ (refusing to accept patients with conditions that require a high cost of care) and ‘skimping’ (discharging patients in an unstable physical condition to meet efficiency targets) (Brock et al., 1998; Duckett, 1995; Kosecoff et al., 1990).

Emergency department physiotherapy is not a direct result of the advent of Casemix-style systems but a sign that hospitals are exploring options to more efficiently manage the volume of patients seeking care from the emergency department. Many of the articles that are highly critical of Casemix have emerged from the United States; a highly managerialist, private enterprise-based health system, well known for providing a disparate health service to patients based on their levels of personal, private health insurance (Kosecoff et al., 1990; McWilliams, Zaslavsky, Meara, & Ayanian, 2004). One study proposed that the disparity between health outcomes for older insured versus uninsured Americans is so great that if not having health insurance were an actual clinical condition, it would be the third leading cause of death in the United States after heart disease and cancer (McWilliams et al., 2004).

Australia’s health care system is more ‘universal’, similar to that of Canada, where facilities such as hospital emergency departments are available to all regardless of capacity to pay (Porter-O’Grady, 1996). Excessive waiting times ensue as staff must systematically treat all triaged patients, and the emergency department and hospital management must house and control the flow of patients (Australasian College of Emergency Medicine, 2005). Little evidence is available to tie Casemix and VACS/QACS in Australia to the problems of

⁵ An example of an inpatient DRG is “carpal tunnel release” (Hirsch & Rhodes, 1998).

'skimming' and 'skimping' experienced in the United States, but the dissimilar health systems make it difficult to compare them. However, no known research has been conducted to show how the introduction of physiotherapy has helped emergency departments better meet their capped budgets in the face of patient overcrowding or lengthy waiting times. Therefore, the evidence is inconclusive as to whether ED physiotherapy, if it has been created as part of a strategy to meet VACS/QACS targets, has made a valid and measurable difference to departmental efficiency.

2.2.2.4 Conclusion

Section 2.2.2 has proposed a three-pronged framework around the development of ED physiotherapy: the profession's history as a first-contact practice; a move by physiotherapy towards greater clinical specialisation; and a concurrent demand on emergency departments to meet funding targets as dictated by Casemix or VACS/ QACS. Much of the framework is based on a meagre volume of evidence, largely dated, highlighting how little consideration the Australian health care system has given to what the objectives of ED physiotherapy are. With this framework in mind, it is necessary to better understand the current context of Australia's health reform agendas, as these illustrate the political environment within which physiotherapy and emergency departments operate.

2.2.3 Australian health reform agendas

As health care reform has happened in Australia, physiotherapy has been redefining its scope of practice and continues to mould itself accordingly. The emergency department system can not be separated from the influence of political and social factors that contribute to service delivery efficacy and efficiency. Its very nature as a 'system' infers interplay of roles, resources and personalities, as well as health consumers' evolving demands as society changes. Mickan and Boyce (2002) argue that the challenge of change is a defining feature of the modern health care system. Emergency department physiotherapy reflects one aspect of this change, both for the profession and the emergency system, therefore a brief review of key health reform agendas is pertinent.

A conflict between the principles and practice of secondary health care and policy makers' increasing desire to enhance primary health and community management (Germov, 2002) has driven health care reform. The Australian health care system has historically centred medical interventions on management of conditions within tertiary institutions (Armstrong, 2005). However, this 'hospital-centric system' is no longer adequate to meet the needs of a health system struggling with burgeoning patient numbers and workforce shortages (Armstrong, 2005; Nancarrow & Borthwick, 2005). Nor is it supported by the adoption of

the Casemix system within hospitals, with its emphasis on reducing use of hospital services to cut costs and improve efficiency (Brock et al., 1998; Byron & McCathie, 1998; Duckett, 1998). Two of the most pertinent reform agendas – current health workforce redesign and job innovation – have enabled physiotherapy (and other allied health professions) to enter the emergency department. They explore how and why the workforce and each clinical profession must adapt to increasing demands on the tertiary health care system, and form the final part of the socio-political framework of ED physiotherapy in Australia.

2.2.3.1 Health workforce redesign

In 2005 the Federal Government's Productivity Commission released its report into the state of the health workforce. Overarching political objectives influencing the Productivity Commission's workforce redesign recommendations were:

- (maximizing) the contribution and efficiency of the available health workforce at any point in time, and to help reduce its mal-distribution; and
- (being) able to respond effectively, efficiently and in a timely manner to changing needs and pressures (Australian Government Productivity Commission, 2005, p.33).

With Australia's health workforce, and physiotherapy in particular, questions have been raised as to what constitutes a sustainable workforce (Australian Institute of Health and Welfare, 2006). Health workforce redesign often occurs due to labour pressures, a desire for improved quality of patient care and a lack of flexible working practice limiting health system reforms (Woodard, 2005b). Of particular concern is the increasing use of health services by the ageing population, changing employment patterns among health professionals (such as high attrition rates, employees taking maternity leave and people working into older age) and the limited growth anticipated within the health workforce (Sturmborg, 2004). Another key issue is highly concentrated numbers of health professionals in urban areas, and difficulty recruiting and retaining staff in regional, rural and remote districts (Forster, 2005).

Understanding the health workforce as a system of interdependent health professionals and resources needing a balance between access, sustainability and professional collaboration is important (Melby, 2000; Scott, Mannion, Davies, & Marshall, 2003). A successful combination of these factors leads to professionally satisfied, valued clinicians, as they are able to administer high-quality and efficient care to the community amidst a strong sense of professional identity (Atwal & Caldwell, 2002; Sbiah, 1995).

In 2002, Queensland reported having the equivalent of 50 physiotherapists per 100,000

population. This was one of the lowest proportions of physiotherapist-to-patient ratios in Australia (Australian Institute of Health and Welfare, 2006). More than half the physiotherapy population worked in the private sector (52.7%), with just over 30% working in the hospital system (Australian Institute of Health and Welfare, 2006). The combination of allied health workers (physiotherapists, occupational therapists, social workers and others) contributes to approximately 9% of Australia's overall health workforce (Australian Institute of Health and Welfare, 2004a). Such figures led both the Productivity Commission and the 'Queensland Health Systems Review', undertaken in 2005, to conclude that there is a critical shortage of allied health professionals, including physiotherapists, to service Australian communities (Australian Government Productivity Commission, 2005; Forster, 2005). Further, The Princess Alexandra Hospital in Brisbane has reported that 40% of physiotherapists will leave the Queensland Health system after 3 years of service and 60% will have moved on by 6 years service (Hearn, 2007). Ongoing migration of the physiotherapy workforce also sees a greater number of physiotherapists departing Australia for overseas than physiotherapists arriving to work in Australia (Australian Institute of Health and Welfare, 2004a).

The 'Queensland Health Systems Review' proposed that for the state to manage public hospital inpatient services, allied health professions needed an additional 1780 staff to meet the national average workload ratio (Forster, 2005). These figures reflect the burden of inpatient services on hospital-based physiotherapists, complicated by a similar lack of other inpatient allied health professions. Anaf and Sheppard (2007a) argue that the development of ED physiotherapy reflected a push to reduce the use of the department by ageing populations and lower triage category patients. This is consistent with emergency departments' general objective to direct patients away from them into suitable community or home-based care, thus reducing the pressure on inpatient hospital services to administer care (Baggoley, 1999). In summary, the allied health workforce, and physiotherapy in particular, presently is not meeting the demand for therapy services in Australia. This indicates that changes are needed to the way physiotherapists and hospitals administer care to ensure the available workforce is best used.

2.2.3.2 Job innovation

Job innovation within physiotherapy and other allied health professions is one of the most pressing changes needed within Australia's health care infrastructure to accommodate growing patient numbers and enhance staff recruitment and retention (Australian Government Productivity Commission, 2005; Forster, 2005). The 'Productivity Commission Report' recommends that enhancing the allied health professions' scope of practice

comprises a significant part of the health workforce's job innovation strategies (Australian Government Productivity Commission, 2005). The Modernisation Agency established by the UK's National Health Service (NHS) concluded that enhancing the scope of clinical practice in areas such as physiotherapy, nursing and pharmacy improved the quality and efficiency of service delivery within their health care system. It reduced waiting times, made workloads more manageable, enhanced specialist skills and created more attractive clinical roles (Australian Government Productivity Commission, 2005; Woodard, 2005b). In 2006 the researcher conducted a personal telephone interview with Fran Woodard, Director of the UK's Modernisation Initiative. She argued that physiotherapists in the emergency department can be used effectively as highly expert triage and treatment workers to address neurological and musculoskeletal conditions (F. Woodard, personal communication, 2006). Physiotherapy in this role fills a significant labour shortage within the NHS, and the clinicians are employed in the role based on stringent standards of clinical knowledge and competency (F. Woodard, personal communication, 2006).

Prominent medical bodies such as the Australian Medical Association (AMA) have some reservations about extending clinical privileges to allied health workers. In a statement released by the AMA in June 2006, the Vice President Dr. Choong-Siew Yong outlined their position on enhanced clinical scopes of practice:

The AMA recognizes that over time the roles of doctors, nurses and other allied health professionals will evolve in response to the changes in the delivery of health care. The AMA supports nurses and allied health staff working in expanded roles, under the supervision of a medical practitioner . . . (Australian Medical Association, 2006, p.1-2).

The AMA's cautious acceptance of extended allied health roles was tempered with numerous principles of practice the allied health professions must demonstrate, including proof of enhanced patient outcomes, appropriate training programs, a team focus within all new roles and continued over-arching patient responsibility by medical practitioners (Australian Medical Association, 2006). However, the Australasian College for Emergency Medicine (ACEM) clarifies the role of advanced allied health practitioners within emergency settings by arguing that they comprise an important part of its departmental multidisciplinary structure:

It is not uncommon for Emergency Departments to establish advanced allied health and nursing roles and a system of multidisciplinary teams to manage all or part of the emergency care process for certain types of patients . . . The objective of advanced allied health and nursing roles and multidisciplinary teams is to increase the expertise available to manage complex cases and it is therefore incumbent on the ED staff with primary responsibility to carefully consider the advice of all members of the team in managing the emergency care process (Australasian College of Emergency Medicine, 2005, p.5).

Support for including allied health professionals such as physiotherapists in the emergency team was confirmed in an interview conducted with the then-President of the ACEM in 2005, who believed that all Australian emergency departments would be open to an extension of physiotherapeutic services (Anaf, 2005). Physiotherapy, it was argued, had the potential to add an appropriate clinical dimension to the 'package' offered to patients in the emergency department, especially if a multidisciplinary team environment could be created similar to that in a rehabilitation or aged care setting (Anaf, 2005; Capiluoto, 2000).

Queensland continues to have unsustainable workload levels and the lowest number of health professionals per capita, except for Tasmania (Forster, 2005). The state's workforce challenges include untenable workloads and pressure, inadequate training and professional development opportunities, and limited opportunities for clinicians to effectively engage in health system decisions such as budget allocations (Forster, 2005). This warrants broad consideration by the Australian health workforce for the expansion of physiotherapy roles into the emergency department. The weight of evidence from the NHS suggests the position could better use physiotherapy expertise, shorten elective surgery waiting lists and reduce or avoid medical consultation time for non-urgent clinical cases admitted via the emergency department (Forster, 2005; Oldmeadow et al., 2007).

Job innovation focusing on musculoskeletal conditions complements the 'Healthy Horizons 2003-2007' report by the National Rural Health Alliance (NRHA), which cited musculoskeletal conditions as the newest national health priority area, particularly due to the influence of falls and ageing populations within the community (National Rural Health Alliance, 2002). The NRHA argues that health service providers sharing knowledge, skills and resources will improve the volume and quality of care provided to individuals in the community, as there is a deficit of services extending beyond major metropolitan centres, with physiotherapy particularly scarce (National Rural Health Alliance, 2002).

Job innovation is an important strategy to help alleviate such challenges. Not only can it maximise the skills of the health workforce, it can also improve the availability of the workforce to patients (Anaf & Sheppard, 2007c; Forster, 2005). For example, revisions to enterprise bargaining processes within the allied health professions enhance the opportunity to extend clinical scopes of practice (Forster, 2005). An opportunity remains to augment allied health professionals' involvement in decision making and service planning within this changing face of practice (Forster, 2005). Importantly, the 'Queensland Health Systems Review' makes a clear distinction between advanced practice roles and extended scopes of

practice, commensurate with the terminology outlined in Table 2, citing ED physiotherapy in an Australian context as a classic model of an advanced practice. The review concludes:

Given the weight of evidence from the United Kingdom supporting the effectiveness of this role, it is suggested that Queensland Health immediately analyse facilities where the volume of presentations of musculoskeletal traumatic injuries could warrant a physiotherapist and resource districts to implement this initiative (Forster, 2005, p.258).

2.2.4 Niche within the evidence base

Reviewing health workforce and job innovation agendas related to advancing physiotherapy's scope of practice highlighted a sizeable gap in the evidence base. There is an abundance of grey literature from different professional bodies discussing the appropriateness of ED physiotherapy. Yet these reports typically encompass opinion and anecdotal evidence. For example, very few studies highlight clinical outcomes between ED physiotherapy's influence on Casemix funding arrangements, the effectiveness of physiotherapy assuming extended roles or the position effectively reducing demand on emergency facilities. No evidence has been identified that explores what frontline clinical staff working in this revised emergency department team believe the result of this altered skill mix adapting to physiotherapy's contribution will be.

It is essential that reforms to clinical scopes of practice and skill mixes are driven by teams of doctors, nurses and allied health members that constitute the majority of clinical professions working in areas such as the emergency department (Forster, 2005). Such reforms should not be determined by individuals removed from the clinical environment (Forster, 2005). In the face of major workplace reforms in Australian health care, it is difficult to determine how emergency department staff believe it will help their department or their patients, or influence future delineation of roles and responsibilities within the team either productively or counter-productively. Research is needed from a stakeholder perspective to address concerns and discuss ways ED physiotherapy can be appropriately shaped, and to bolster its evidence base.

2.3 Emergency department service delivery issues

2.3.1 Access block

One of the most multifaceted, systemic problems afflicting hospitals is access block, where patients wait in the emergency department for more than 8 hours before being admitted to hospital as an inpatient (Australasian College of Emergency Medicine, 2004a; Cameron et al., 2002). The link between access block as a symptom of a struggling health system and

ED physiotherapy's contribution to improving service delivery has not yet been explored. However, the topicality of the access block phenomenon, especially as an incentive to encourage health service innovation, makes it an appropriate service delivery issue to investigate.

Humorously referred to as the 'science of corridology' (Forero et al., 2004, p.70) due to the image of patients lying in beds in the hospital corridor, access block refers to the serious issue of poor patient through-put and inadequate service capacity to accommodate patients needing admission from the emergency department to the inpatient wards in hospitals. The Australasian College for Emergency Medicine (ACEM) provides this specific definition:

[Access block] refers to the situation where patients in the ED requiring inpatient care are unable to gain access to appropriate hospital beds within a reasonable timeframe. It is expressed as the proportion of patients requiring formal admission to hospital who have a total ED time greater than 8 hours. It is the percentage of all patients admitted, planned for admission but discharged from ED without reaching an inpatient bed, transferred to another hospital for admission, or dying in the ED whose total ED time exceeds 8 hours (Australasian College for Emergency Medicine, 2001, p.5).

The problem has been cited as one of the biggest impediments to the provision of effective emergency care in Australia (Dunn, 2003; Stuart, 2004) and has been covered in the literature from the late 1990s into the early 21st century (Ashby, 2003; Richardson, 2003; Ruffin & Hooper, 2003). Excessive levels of hospital occupancy are one of the primary causes of access block. Continuing hospital bed closures in Australian hospitals has routinely caused hospital occupancy to reach critical levels of 95% (Australasian College of Emergency Medicine, 2004a). National inpatient bed numbers have diminished by 15% since the early 1990s, with a commensurate increase in levels of access block (Australasian College of Emergency Medicine, 2004a, 2004b). One of the most pertinent Queensland examples is Royal Brisbane Hospital's cutback from 1056 acute beds in 1993 to 760 beds in 2003 (Australasian College of Emergency Medicine, 2004a). Ruffin and Hooper (2003) noted a 25% bed reduction at a major South Australian facility, Adelaide's The Queen Elizabeth Hospital, from 476 to 361 beds. Similarly, Richardson (2003) documented that the Canberra Hospital had reduced its inpatient beds from 533 to 491 by 2003.

Dunn (2003) explored the relationship between access block levels, and changes in the level of hospital occupancy and the emergency department's waiting time performance at The Queen Elizabeth Hospital. Dunn's retrospective, observational study was conducted during a time when nursing industrial action cancelled elective hospital admissions, but not admissions from the emergency department. Hospital occupancy was significantly reduced by 5.9% ($p < 0.001$), causing a 13% absolute and 72% relative decrease in the number of

times patient numbers exceeded emergency department bed numbers (Dunn, 2003, p.236). Dunn concluded that relatively small increases in bed access capacity resulted in highly significant reductions in the time patients waited in the emergency department (Dunn, 2003).

While Dunn's study illustrates the influence of hospital occupancy and bed numbers on access block in an Australian context, hospital occupancy and access block have also been one of the biggest drivers for reforming emergency care internationally, particularly in the UK. The NHS argues that emergency care reform was partly facilitated by a critical shortage of hospital beds and excessive emergency department waiting times (National Health Service (UK), 2001). The UK's Departments of Health acknowledge that the effectiveness and efficiency of the local health care system, both inpatient services and community care, influence emergency department service delivery. This is evidenced by one policy initiative in which General Practitioner services have been funded to provide greater night and weekend coverage for the community in an effort to reduce the demand for emergency services (National Health Service (UK), 2001). The argument was that inadequate General Practitioner services in the community caused a commensurately negative strain on the workload experienced by emergency department staff as patients sought round-the-clock health care (National Health Service (UK), 2001).

It is not coincidental that the UK has been a leading developer of ED physiotherapy services. McClellan, Greenwood and Benger estimate that the ED physiotherapist may contribute comprehensively to 20-30% of adult patients attending the study hospital (McClellan et al., 2006, p.386), even though they argue that in many instances the ED physiotherapy role is not as versatile as other extended or advanced practice clinicians, such as Extended Nursing Practitioners, due to its limited focus on non-musculoskeletal patient conditions. Physiotherapy's greater contribution to service delivery is evidenced by improved patient through-put with minor, musculoskeletal-based conditions and superior clinical outcomes for such conditions (Anaf & Sheppard, 2007c). Improving the flow of musculoskeletal patients has been shown to have a positive follow-on effect for reducing the time and resources otherwise used by nurses and doctors (McClellan et al., 2006), and decreasing the demand for inpatient facilities with patients who may not be discharged as quickly had they not been attended to by physiotherapy at an early stage (Anaf & Sheppard, 2007c; McClellan et al., 2006).

There is only a very small body of ED physiotherapy literature, but it has noted the role's relation to discharge planning in a bid to reduce hospital occupancy caused by prolonged or inappropriate emergency department stays. Anaf and Sheppard (2007a) observed an

important role; to encourage patients' safe, secure transition from the emergency department, ideally to become independent at home. This included organising the availability of community services for patients, such as outpatient allied health clinicians, and home-based support services such as Meals on Wheels (Anaf & Sheppard, 2007a).

Figure 3 summarises key factors that perpetuate hospital access block (Australasian College of Emergency Medicine, 2004a, 2004b; Cameron et al., 2002; Forero et al., 2004). Many of the factors, for example a lack of inpatient beds, cause other problems such as increased emergency department waiting times. Access block can therefore be simplified to a cyclical phenomenon (Figure3).

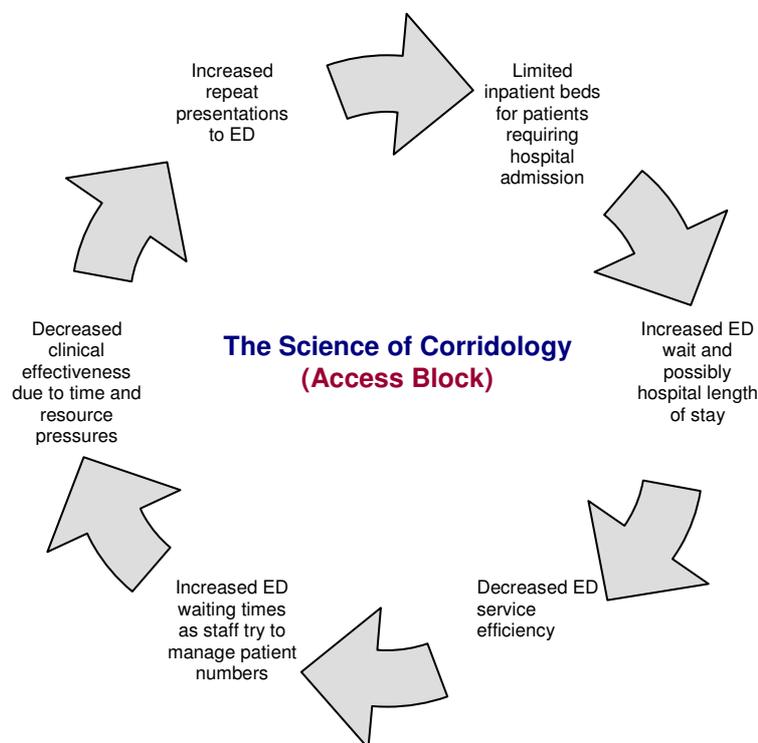


Figure 3: Key factors influencing access block

A case control study conducted by Moss et al. (2002) described the role of a multidisciplinary emergency department allied health team, known as a Care Coordination Team (CCT), at a Melbourne hospital. The CCT's original mission was to prevent inappropriate hospital admissions through the emergency department, minimise repeat presentations to the department and facilitate safe discharge of patients (Moss et al., 2002). It was shown to have a significant role in preventing unnecessary and inappropriate hospital admissions that contribute to access block. Personal correspondence with Moss et al. in 2005 revealed that their research did not describe physiotherapy as a member of the CCT at that time, however the position has since been included as a core member of the emergency

department team. No further data is publicly available showing the effect physiotherapy has had on the CCT and emergency department service delivery, however anecdotal reports from the authors reveal they believed it had been an overwhelmingly positive addition (C. Flower, personal communication, May 2005).

The CCT's aims were also at the core of practice for the Aged Care Coordination Team (ACCT) at the Austin Hospital, as identified by Anaf and Sheppard (2007a), and The Northern Hospital in Victoria (Corbett, Lim, Davis, & Elkins, 2005). Thus the concept of a CCT or ACCT located in the emergency setting is bound by the intention to reduce the strain on emergency resources and staff, the most obvious consequence of which is access block (Anaf & Sheppard, 2007c; Australasian College of Emergency Medicine, 2004a, 2004b; Australian Medical Association, 2004). However, it remains unclear how physiotherapy specifically alleviates access block, as no studies have been conducted looking at such a contribution. The lack of data and statistical evidence raises an important option for future research.

A final component of access block that has not been investigated in relation to ED physiotherapy is the influence of hospital length of stay (LOS) in perpetuating the cycle. Hospital LOS is a known contributor to the cause of access block (Figure 3). Studies have statistically proven links between excessive emergency department LOS and longer inpatient LOS (Liew, Liew, & Kennedy, 2003); and emergency department LOS and levels of hospital occupancy (Dunn, 2003). Also, that most types of patients run the risk of being subjected to access block, with particular risks for the elderly who tend to have longer hospital LOS by virtue of co-morbidities (Richardson, 2002). Table 3 summarises three key Australian articles that have quantitatively illustrated the link between LOS and access block.

Although the evidence in Table 3 provides a strong argument for the link between LOS and the access block phenomenon in emergency departments, it is unclear how ED physiotherapy helps minimise the department's LOS. Hospital LOS could be improved if medical referrals to allied health professions, traditionally occurring on the wards, were implemented earlier in the emergency setting (Liew et al., 2003). Emergency department physiotherapy has been observed to discharge a significant number of patients who otherwise risked admission to hospital to receive allied health services (Anaf & Sheppard, 2007a). Moss et al. (2002) also argued that almost half of all referrals to the CCT were for members of the allied health professions.

Table 3: Australian studies examining LOS and access block in emergency departments

| Author | Level in Research Hierarchy | Description of Study |
|---|-----------------------------|--|
| <i>Liew, Liew & Kennedy (2003).</i> | 2B | This retrospective case control study identified a link between ED LOS contributing to increased inpatient LOS. Those patients who remained in the ED for 8-12 hours risked having 20% longer hospital LOS. Concerns were raised for the risk of greater patient morbidity due to deleterious health effects of remaining in hospital such as prolonged bed rest, particularly risky for elderly patients. |
| <i>Dunn (2003).</i> | 3C | Conducted during a period of industrial nursing action, this retrospective observational study highlighted that LOS in the ED was significantly affected by reduced hospital bed occupancy (N=2332 in the control period; N=1133 in the study period). Hospital occupancy percentages reduced from 94% to 89% (p<0.001), which in turn caused improvements in ED waiting time performance for ATS categories 4 (72.7 minutes to 43 minutes [p<0.001]) and 5 (78.6 minutes to 51 minutes [p<0.001]). There was a 37% reduction in overall ED waiting time and a 37% reduction in the number of patients who did not wait for treatment. |
| <i>Richardson (2002).</i> | 2A | A retrospective cohort study, Richardson showed that those patients who had experienced access block in the ED were at risk of hospital LOS exceeding 4 days (Access block cohort mean LOS = 4.9 days; non-access block cohort mean LOS = 4.1 days). Access block affected patients with a wide range of clinical and social characteristics and at most times of arrival in the ED. |

Physiotherapy's contribution to improving the effects of emergency department access block remains speculative at best. Given that the causes of access block encompass resourcing, staffing and budget issues reaching beyond the boundaries of the physiotherapy profession, it is incorrect and unreasonable to assume from the available evidence that ED physiotherapy is in any way a key solution to Australian access block problems. Instead, it is worthwhile investigating models of ED physiotherapy practice which work towards addressing patient care options that simultaneously concentrate on some of the causes of access block, such as using physiotherapy to address non-urgent patient conditions more quickly and encouraging the discharge of patients with more comprehensive community supports if they do not require hospital admission (Anaf & Sheppard, 2007a; McClellan et al., 2006; Moss et al., 2002). Physiotherapy in the emergency department under these circumstances has the potential to become an innovative contributor to efficient service delivery and quality patient care.

2.3.2 Non-urgent users of emergency services

Literature has often cited ED physiotherapy's role as providing diagnosis and management of patients who are deemed 'non-urgent' (Anaf & Sheppard, 2007a, 2007c; Kempson, 1996; McClellan et al., 2006). The use of emergency department services for non-urgent conditions provides a substantial drain on staff and resources, and is complicated by factors such as patients' lack of self-awareness about the severity of their medical conditions (Sanders, 2000); dissatisfaction with, or poor access to primary health care practitioners (Sarver, Cydulka, & Baker, 2002); and communities' perceptions that emergency departments are a last resort for social and health care options when all other avenues have been explored (Afilalo et al., 2004; Malone, 1998). Given that ED physiotherapists manage patients who have been triaged as not experiencing a life-or-limb threatening ailment (typically Australasian Triage Categories 4 and 5) (Anaf & Sheppard, 2007a), further understanding about the reasons for non-urgent patients using emergency department services may offer better insight into where physiotherapy skills are most appropriately directed. Table 4 outlines emergency department triage categories in Australia.

Table 4: Australasian Triage Scale (ATS)

| Category position | Code name | Definition |
|-------------------|---------------|---------------|
| 1 | Resuscitation | Immediate |
| 2 | Emergency | < 10 minutes |
| 3 | Urgent | < 30 minutes |
| 4 | Semi-urgent | < 60 minutes |
| 5 | Non-urgent | < 120 minutes |

(Australian Institute of Health and Welfare, 2004b, p. 290)

Medically non-urgent patients provide a dilemma for emergency departments due to the high volume of patients seeking care and the consequent financial strain on the facility (Gill, Reese, & Diamond, 1996; Guttman, Nelson, & Zimmerman, 2001). In Australia it has been suggested that emergency departments provide care for up to one in ten individuals per annum (Stuart, Parker, & Rogers, 2003). This is contrary to emergency department aims to provide stabilising care for life-or-limb threatening injuries, with a high staff ratio on standby (Australasian College of Emergency Medicine, 2005; Guttman et al., 2001).

Management of non-urgent patients can be loosely separated into factors extrinsic and intrinsic to the staff and patients. Patients are compelled to attend emergency departments when they can not receive adequate care in the community for their otherwise non-urgent

conditions (Cunningham, Clancy, Cohen, & Wilets, 1995; Guttman et al., 2001; Malone, 1998). There is an inverse relationship between use of emergency departments and access to primary health care services (Malone, 1998). Typically, those who rely on emergency department services have diminished access or ability to pay for general practitioner or community health services (Cunningham et al., 1995; Guttman et al., 2001). One study from the United States proposed that up to 84% of non-urgent visits to the emergency department were by people who did not have a usual or accessible general practitioner, especially if their financial situation limited their ability to pay for medical consultation (Sarver et al., 2002). Dissatisfaction with the quality of primary health care services, especially the perceived lack of quality staffing and failure to meet patients' needs were related to increasing attendances at emergency departments for non-urgent complaints (Sarver et al., 2002).

The prevalence of non-urgent patients in emergency departments is known to be a continual source of frustration for emergency department staff (Sanders, 2000). Concerns have been raised about the ability of doctors and nurses to sustain quality patient care in the face of increasing workloads, which reduce staff to patient ratios (Sanders, 2000). Recent studies claim that minor injury units in the UK (to specifically manage non-urgent caseloads in the emergency department) and extended emergency nurse practitioner positions have been developed as a direct result of the frequency of non-urgent patients using the emergency department (Rogers, Ross, & Spooner, 2004; Sanders, 2000). Specific minor injury streams have also been implemented because many hospitals fail to meet triage targets (Rogers et al., 2004). Emergency medicine's codes of conduct to administer care require prioritisation by severity of injury or illness. Those deemed clinically non-urgent must wait until staff have managed all urgent and semi-urgent cases (Australian Institute of Health and Welfare, 2004b; Rogers et al., 2004). Excessive waiting times for non-urgent patients in the UK are further complicated by figures suggesting up to 75% of all emergency department attendances are by patients with clinically non-urgent conditions and there are ever-increasing new attendances (Rogers et al., 2004).

Emergency department physiotherapists in the UK and Australia have historically targeted clinically non-urgent patients because these patients are within their professional scope of practice and congest emergency department waiting lists. One of the oldest articles to document ED physiotherapy's role in managing non-urgent patients describes a focus on neuro-musculoskeletal problems such as acute muscle strains, tendonitis, minor burn scarring and ligamentous injuries (Kempson, 1996). A more recent article evaluates the effect of ED physiotherapists on minor soft tissue injuries, including measuring patient satisfaction and time taken to attend to patients (McClellan et al., 2006). Patients with minor

injuries waited less time to be attended to by an ED physiotherapist than an emergency nurse practitioner or doctor, and spent less time overall in the emergency department (McClellan et al., 2006). Patient satisfaction measures with the quality of emergency department care were most favourable towards ED physiotherapists ($p < 0.0048$) (McClellan et al., 2006). This is considered more critically in section 2.5.

Non-urgent patients use emergency department services because it is perceived to offer greater continuity care, from providing a variety of medical professionals to having links to community resources (Cunningham et al., 1995). The emergency department system is recognised as an interface between the hospital and the community sector, with patients often referred to the department by their usual primary care provider (Afilalo et al., 2004; Stuart et al., 2003). This infers that the community sector is intimately connected to, and affected by, the emergency department's functioning (Taylor et al., 2004). Australian ED physiotherapy services anticipated this link and developed clinical roles that are closely tied to encouraging greater community care. For example, taking an active role in the discharge planning of non-urgent patients (ATS categories 4 and 5 – refer to Table 4) saw ED physiotherapists provide home-based exercise programs, gait aid education, referral to community and outpatient allied health services, and home-based support (Anaf & Sheppard, 2007a). However, there is a major gap in the ED physiotherapy evidence base. It is missing details of the specific relationships forged with the community sector and how health professionals in the community interpret what ED physiotherapy can offer them. There is no Australian or international perspective on how staff in the department and the community sector believe their roles will change with the introduction of ED physiotherapy services, and if, in fact, these services improve the efficiency and effectiveness of emergency department care.

Intrinsic needs and concerns, including inability to judge the urgency of injury or illness, especially with symptoms of pain and anxiety (Guttman et al., 2001; Sanders, 2000), also drive clinically non-urgent patients to access emergency departments rather than primary health care services (Sarver et al., 2002). Patients often seek reassurance about their medical condition, use emergency staff to obtain a second clinical opinion and may perceive the emergency department as offering superior quality care (Guttman et al., 2001; Sanders, 2000).

Despite patients' motives, emergency staff may interpret working with clinically non-urgent conditions as trivial, time consuming or unrewarding (Sanders, 2000), resulting in patients feeling like a burden to staff as they recognise staff's priorities towards critical care

(Gordon, 2007; Nystrom, Nyden, & Petersson, 2003). Unsurprisingly, one of the most crucial determinants of a positive emergency department experience is patient perceptions of the quality of communication and display of caring emotions from staff (Gordon, 2007; Nystrom et al., 2003; Stuart et al., 2003; Watt, Wertzler, & Brannan, 2005). Yet ED physiotherapy research has scarcely explored the interpersonal dimensions of care with non-urgent patients. Some evidence points to patients being more receptive to ED physiotherapy than to information provided by emergency doctors and nurses (McClellan et al., 2006). Dimensions measured included trust in the quality of information provided ($p<0.03$), communication of clinical results ($p<0.01$) and the opportunity for patients to ask questions about their condition ($p<0.05$) (McClellan et al., 2006). Acknowledgement of these attributes led to patients being most satisfied with the quality of care offered by ED physiotherapists in comparison to other emergency staff members (McClellan et al., 2006). Patients valued having time taken to explain exercises and other health information, and thorough subjective and objective assessments (Gordon, 2007; Watt et al., 2005). Emergency department physiotherapy's focus towards less-urgent patients meant they could allocate more assessment and treatment time, and link patients in to outpatient services, which were well received by patients (Anaf & Sheppard, 2007a; Gordon, 2007; McClellan et al., 2006).

2.3.3 Niche within the evidence base

There is a relative absence of research exploring how ED physiotherapy contributes to reducing significant service delivery issues, such as improving patient through-put, reducing times waited for care by clinically non-urgent patients, and ultimately reducing the strain on inpatient beds and resources, which causes access block. While there are indications that minor injury streams in the UK can significantly reduce the time patients wait in the department (Rogers et al., 2004), and McClellan et al. (2006) have looked at the effect of ED physiotherapy on patient waiting times, no-one has investigated how different members of the emergency system believe ED physiotherapy will make a positive service delivery contribution. One early study conducted in the UK (Morris, & Hawes, 1996) even proposed that ED physiotherapy could cause an increase in non-urgent patients seeking free allied health care via the department, indicating that major service delivery issues will have a direct influence on how the department uses ED physiotherapy. However, there is no evidence explaining the direct consequence of the position on departmental and clinical effectiveness.

2.4 Stakeholders in the emergency department

Stakeholders can have different views of quality and ways of measuring it . . . a quality “package” of physiotherapy care takes these differences into account (Grimmer et al., 2000, p.3).

Stakeholders are those people who have something at stake in an evaluation of a program or facility (Atwal & Caldwell, 2002). In physiotherapy practice generic stakeholders typically involve the recipients of care (the patients and their families), those who implement care (the clinicians) and other parties who either directly or indirectly benefit from the care administered (other health professionals, other health service providers and referrers) (Grimmer et al., 2000).

There is an obvious lack of rigorous research that cohesively discusses key emergency department stakeholders, yet an understanding of relevant stakeholders to the emergency department setting was essential in shaping the research aims. The decision to explore the opinions of patients, community health professionals (general practitioners, community-based nurses and community-based physiotherapists) and key emergency department staff (doctors, nurses and physiotherapists) was made on the basis of ED physiotherapy and health workforce studies that briefly cite these stakeholder groups’ relationship to the physiotherapy profession (Anaf & Sheppard, 2007a, 2007c; Jibuike et al., 2003; McClellan et al., 2006; Morris & Hawes, 1996; Nancarrow & Borthwick, 2005; Richardson et al., 2005; Smith & Buckley, 2004; Taylor et al., 2004; Walker & Dewar, 2000).

The proposal of the three stakeholder categories as the main foci of this research necessitates a more thorough understanding of their roles in the emergency system. It is important to justify their position as the primary groups for investigation, given that this is the first known stakeholder investigation of ED physiotherapy and may influence future research surrounding similar topics. Evidence behind the inclusion of each stakeholder category is now presented.

2.4.1 Patients as emergency department stakeholders

Much research has been conducted into examining patients’ experiences and perceptions of emergency department services (Gordon, 2007; Gordon, Sheppard, & Anaf, 2008; Rydman et al., 1997; Watt et al., 2005; Wellstood, Wilson, & Eyles, 2005). However, limited research has looked at what patients understand physiotherapy services to provide or what they expect to achieve from physiotherapeutic management (Gordon, 2007; Sheppard, 1994). No studies have identified what patients understand ED physiotherapy to offer or how they believe the position will influence the emergency department’s quality of service

delivery. In an unpublished qualitative thesis, Gordon (2007) evaluated patients' levels of satisfaction with ED physiotherapy post-intervention. Results indicated very positive support for both the technical and caring competence of the clinicians. However, there was no indication as to whether patients anticipated the type of care they received by the physiotherapist or how it complied with their expectations of emergency department management.

Patients are an appropriate stakeholder population for this research due to healthcare organisations' commitment to exploring the 'consumer' perspective, especially given that so many people rely on emergency services for non-urgent conditions (see section 2.3.2) (Gordon, 2007; Grimmer et al., 2000). Media reports about poor emergency department performance often reflect patients' negative experiences, such as prolonged waiting times or ambulance bypass influencing access to care (Anaf, 2005; Wellstood et al., 2005). Fear and anxiety from presenting to an emergency department with an injury or illness make patients vulnerable to misunderstanding health care actions or staff communication, leading to dissatisfaction with treatment (Hostutler, Taft, & Snyder, 1999). Under the circumstances of patient dissatisfaction, patients are at risk of neglecting emergency department follow-up care and advice (perpetuating a cycle of illness and re-presentation to emergency), and fuelling a negative image of the hospital in question (Gordon, 2007). Over time this may affect the services that can be offered to patients, as patient satisfaction is seen as a benchmark for quality of care and often influences funding allocations (Hostutler et al., 1999).

Patients would like to be involved in their clinical decision making and respond favourably to clinicians who show genuine concern and empathy for their situation (Hostutler et al., 1999). Satisfaction and compliance with management is correlated to patients being treated as individuals and receiving reassurance (Watt et al., 2005). It is partly believed that as patients have a limited capacity to evaluate clinicians' technical competence, they draw on their perceptions of clinicians' caring qualities to evaluate their experience (Hostutler et al., 1999). Therefore, their opinions about the quality of treatment and staff's interpersonal skills are a very meaningful component in their overall experience in the emergency department, and must be taken seriously (Gyllensten, Gard, Salford, & Ekdahl, 1999; Wellstood et al., 2005).

Collaboration between the ED physiotherapist and the patient begins from the initial examination, which is likely to be a much shorter professional encounter, given the busy nature of the setting (Anaf & Sheppard, 2007a; Baker, Marshak, Rice, & Zimmerman,

2001). There is no evidence to suggest, however, that the core practice of physiotherapy care changes in the new, fast-paced environment of the emergency setting. Central features include quality education and communication; encouraging patient compliance; appropriate clinical knowledge; and encouraging patients' active participation in management (Baker et al., 2001; Gyllensten et al., 1999). Studies further suggest that an increase in patients' active participation offers clinical and psychosocial benefits, and that a balance in the clinician-patient relationship is reached by combining advocacy for active participation with the ability to defer to a more passive approach if this is the patient's resolute wish (Arora & McHorney, 2000). As ED physiotherapy is known to combine hands-on techniques with educative strategies (Anaf & Sheppard, 2007a, 2007c; McClellan et al., 2006), the position could comfortably straddle the boundaries of active and passive patient participation. However, the way patients respond to this in the emergency environment, whether favourably or unfavourably, is unknown.

Evidence suggests that patients want to be involved in the direction of their health care. In the interest of advocating for biopsychosocial or public health models of care, research needs to explore patients' perceptions of the treatment they receive and what they expect a service to deliver (Germov, 2002; Gordon, 2007; Hostutler et al., 1999). No evidence has been uncovered about what emergency department patients understand physiotherapy to provide, or whether this would be any different from their expectations of traditional outpatient or inpatient physiotherapy care.

2.4.2 Community health professionals as emergency department stakeholders

The second major stakeholder group are members of community health professions (medicine, nursing and physiotherapy) who have an indirect relationship to the emergency department. Very little is known about the connection, if any, between ED physiotherapy and external care providers. Reference has been made to ED physiotherapists or CCTs organising community services such as home care or outpatient referrals (Anaf & Sheppard, 2007a; Moss et al., 2002). Older ED physiotherapy studies have also detailed the physiotherapist's role as consulting clients up to a week following their initial presentation, taking on the post-acute management of patients that is traditionally reserved for community health professionals (Kempson, 1996; Morris & Hawes, 1996). However, a gap exists in investigating what members of community health professions understand ED physiotherapy to be, and if the position is likely to have any influence over their roles and responsibilities.

Exploring the community dimension is important, as many patients using emergency

departments are frustrated with their usual source of community care and hence seek a second medical opinion (Cunningham et al., 1995; Sarver et al., 2002). There is a competing interest between shifting inappropriate visits from the emergency setting to clinics designed for ambulatory primary care (Koziol-McLain, Price, Weiss, Quinn, & Honigman, 2000) and a corresponding reduction in funding to the primary health sector (Guttman et al., 2001). An underlying theme is patients and hospital health care providers feeling that the community sector can not offer appropriate health care for the masses (Guttman et al., 2001). Emergency departments are subsequently considered a last resort, or a health and social 'safety net', that can provide medical care and shelter for all (Malone, 1998).

In Australia, the Davies report (Davies, 2005) into the state of the public hospital system in Queensland was critical of the lack of communication between emergency departments and the community sector about the general community's needs. This is an interesting point raised in the face of growing experimentation with outpatient emergency services (Beales, 1997; Hattam & Smeatham, 1999; Melby, 2000; Wilson, 2005). For example, a study conducted by Wilson (2005) explored the challenge of co-locating primary care facilities (or GP clinics) in emergency departments. The rationale for such an initiative was to manage inappropriate patient attendances caused by people seeking a low-cost or convenient health service, or a substitute for their usual primary care source (Wilson, 2005). While supportive of the concept, Wilson illustrated a number of barriers between the emergency department and the community sector, including GPs' unwillingness to staff a round-the-clock treatment facility; a discrepancy between the biopsychosocial model of care generally employed by GPs and the more biomedical model of care traditionally employed in emergency departments, and how GPs could adapt to a more paternalistic approach; and a lack of community health professionals to staff such a clinic (Wilson, 2005). Wilson implies that although the aspiration to better integrate secondary and community care is consistent with the World Health Organisation's desire to transition to a public health/primary care model of medicine, philosophical, ideological, recruitment and financial barriers between emergency departments and the community sector may impede this (Wilson, 2005).

Ageing members of the population and nursing home facilities are also a dominant link between the emergency department and the community sector. Older adults are up to three times more likely to be hospitalised for acute and co-morbid conditions, and are at greatest risk of experiencing the effects of functional decline from hospitalisation (Warbuton, Parke, Church, & McCusker, 2004). Elderly patients comprise a significant proportion of the non-urgent patients consuming emergency services (Anaf & Sheppard, 2007c; Moss et al., 2002; Richardson, 2002) and systemic problems such as access block may affect the elderly

population hardest, as there is a corresponding decrease in the provision of low- and high-level nursing home care (Cameron & Campbell, 2003a). A lack of high-dependency residential care beds increases demands on emergency departments to provide interim accommodation for elderly patients who do not have a safe or appropriate home situation in which to stay (Anaf, 2005; Cameron & Campbell, 2003a). Therefore, the community sector's ability to manage ageing patients' health and social needs arguably has an inverse relationship with emergency departments: the more difficult it is for the community to care for the elderly (through cuts to residential beds and personnel), the greater the strain on emergency services to offer that care (Cameron & Campbell, 2003a).

Thus, emergency departments and community health professionals are inextricably linked because they both manage the general community's health needs. Insufficient resourcing and staffing in both sectors perpetuate a negative cycle of having to manage patients under sub-optimal circumstances, such as during periods of access block (Anaf & Sheppard, 2007a; Australian Medical Association, 2004, 2006; Cameron & Campbell, 2003a; Cameron et al., 2002) or when patients have nowhere else to be placed (Cameron & Campbell, 2003a; Moss et al., 2002). It is unknown how ED physiotherapy, through theoretically managing patients who will shortly return to the community, changes the ability for the emergency department and community sector to collaborate. Physiotherapy and other allied health professions are known to have a role in managing the discharge of patients to the community (Anaf & Sheppard, 2007a; Jibuike et al., 2003; Kempson, 1996), yet what the community health professionals understand the service to offer, and how it will influence service delivery, is unclear. This remains a focus of the dissertation.

2.4.3 Emergency staff as emergency department stakeholders

The final stakeholder group comprises the core professions working in the emergency department; the doctors, nurses and, for the purposes of this research, physiotherapists. Many more professions are affiliated with the emergency department, including administrative personnel, radiographers, social workers and paramedics, but to contain the research scope and provide consistency with the community health stakeholders investigated, the research is confined to the opinions of medicine, nursing and physiotherapy professionals.

Emergency department physiotherapists have to negotiate their working environment around the roles of doctors and nurses who have traditional authority in the emergency setting (Australasian College of Emergency Medicine, 2005). Multidisciplinary collaboration has known benefits for patient outcomes, including more comprehensive assessment of patients'

conditions and a variety of treatment options (English, 1997; Melby, 2000; Scott et al., 2003). As a consequence the ACEM and AMA continually encourage more consistent team consultation in the emergency setting (Australasian College of Emergency Medicine, 2005; Australian Medical Association, 2004, 2006).

For ED physiotherapists, clinical collaboration will primarily occur with the doctors and nurses who have the highest staff numbers in the emergency department. They are also the traditional staff members, with a long, established professional history in the emergency field. Adding physiotherapy to the emergency setting changes the department's skill mix, not only because they have no historical role in providing patient care in that setting and the department must learn to adapt, but also because physiotherapists have, and expect, a certain level of professional autonomy (Adamson & Harris, 1996).

The introduction of emergency nurse practitioners (ENP) within the NHS in response to falling staff numbers and rising patient attendances was met with a mixture of enthusiasm and opposition from other emergency professions (Tye, 1997). Critics were worried about the nursing profession having greater autonomy; the ability to prescribe medications, to make radiographic requests and the potential risk of de-skilling junior medical staff by ENPs controlling the management of patients with minor injuries (Tye, 1997). The literature does not document whether the same concerns are held, years later, for the introduction of ED physiotherapy. The extent of opposition or support for physiotherapy from within the emergency department system itself is unknown. Do emergency department staff embrace the idea of an autonomous and team-based physiotherapy role because it can offer a completely new dimension to the assessment and management of patients (by not being a traditional member of the department)? Are there underlying concerns about physiotherapy's role because it is unfamiliar, has the potential to make autonomous judgements on minor conditions and encourages a different overall direction for emergency care?

What the literature has recognised is that positive patient outcomes are at risk of being undermined when emergency department staff do not work together to point out to each other in advance the potential for clinical errors (Risser et al., 1999). If emergency doctors, nurses and physiotherapists do not effectively collaborate or feel comfortable liaising with each other about patient management, professional roles may be duplicated, resources wasted and clinical signs missed in the interest of preserving clinical 'turf' (Atwal & Caldwell, 2002; Risser et al., 1999). While recognising doctors, nurses and physiotherapists have their own knowledge and professional agendas, there is still a tendency for the individual professions to plan and manage patients in isolation, often at the expense of the

patients' own goals about their health outcomes (Atwal & Caldwell, 2002; Smith et al., 2000). It is important for health professions to understand each discipline's approach to assessment, management, communication and the level of patient involvement in health decisions because the skills required to both 'care' and 'cure' do not sit with any one profession in isolation (Baumann, Deber, Silverman, & Mallette, 1998; Sbiah, 1995; Smith et al., 2000). Therefore, it is argued that to both 'care' for, and 'cure' an emergency patient, a coordinated combination of health professionals offering advice and intervention is best (Australasian College of Emergency Medicine, 2005; Baumann et al., 1998).

2.4.4 Collaboration in the emergency department

Recognising the value of the three stakeholder categories as a 'team' is of central importance to this thesis. Research cites interprofessional collaboration as one of the essential components of best health care practice. An effective team environment has a better understanding of different disciplines' roles, mitigates clinical errors because of ongoing and more comprehensive staff inputs, and enhances the quality of decision making (Atwal & Caldwell, 2002; Melby, 2000; Risser et al., 1999). Collaboration is vital in the emergency department setting as many patient details and histories are incomplete, decisions must be made quickly and the presence of many different team members increases the chances of service fragmentation (Atwal & Caldwell, 2002; English, 1997).

Atwal and Caldwell (2002) list a number of advantages to health care being administered via a team structure, including improved planning within the department; a greater focus on patients' needs; more clinically effective services; and greater career satisfaction among staff (Atwal & Caldwell, 2002). Given that reports identify retention of physiotherapists within the Queensland Health system as challenging, with 40% leaving after 3 years, encouraging career satisfaction via supportive team structures is a relevant consideration for this research (Hearn, 2007). Further, it has been shown that when managing patients who frequently use emergency department services, a multidisciplinary team approach to emergency care is most successful because staff can better direct patients to GP and community services (Phillips, Brophy, Weiland, Chenhall, & Dent, 2006), and better provide holistic patient management along the health care continuum (Bristow & Herrick, 2002). In this context the emergency team extends beyond the doctors, nurses, physiotherapists and other staff to include the patient and the community health sector (Bristow & Herrick, 2002; Phillips et al., 2006; Sbiah, 1995).

Beales (1997) uses emergency nurse practitioners in a Minor Injuries Unit as an example of the connection of community health providers to the emergency team. Beales describes a

direct relationship between the emergency department team and the community health sector at a single hospital where GPs can fast-track patient management by writing the x-ray referrals, which are then enforced by the emergency nurse practitioners, thus bypassing the emergency doctors (Beales, 1997). Little is mentioned about how this referral process came to be accepted within the emergency department, however the study suggests that collaboration between the Minor Injuries Unit and the GPs better streamlines patient management and improves departmental efficiency (Beales, 1997).

There are known barriers to effective collaboration in the emergency system. Cairo (1996) examined emergency physicians' attitudes to the introduction of emergency nurse practitioners in the context of blurred professional boundaries and extended nursing responsibilities. Obstacles encountered included reluctance within the medical profession to abandon a medical-dominated hierarchy, and a fear that the nursing profession wanted to infiltrate medical roles and substitute as doctors (Cairo, 1996). Cairo concludes that sentiments of suspicion and reluctance to accept an extended nursing role stemmed from a fundamental discrepancy in the understanding of that position; that emergency doctors interpreted nursing practitioners as trying to be junior doctors, whereas the nurses visualised the position as a way of advancing *nursing* practice (Cairo, 1996). Therefore, understanding independent and collaborative roles and clinical boundaries is essential in building trust and acceptance within the emergency team (Cairo, 1996; Sbiah, 1995). This has important implications for ED physiotherapists as they enter the established emergency team environment.

It is crucial that ED physiotherapy's role is well understood and accepted to encourage effective collaborative relationships in the emergency department. It undeniably involves blurring of professional roles within the team (Anaf & Sheppard, 2007a; English, 1997). If it is true that a department's health culture is directly related to organisational performance (Scott et al., 2003), then physiotherapists must be sensitive to the collaborative culture in the emergency department in order to better assimilate. The rules of collaboration are often difficult to enforce and physiotherapists historically limit their participation in team structures as it is thought that the profession (along with occupational therapy and social work) may lack confidence to speak up in a medically-dominated environment (Atwal & Caldwell, 2002).

Theoretically, collaborative practice involves health professionals working along a flat hierarchy as opposed to one dominated by medical practitioners (Cairo, 1996). This is contrary to the current responsibilities of care in Australian emergency departments, which

have doctors as the pinnacle of the emergency hierarchy (Australasian College of Emergency Medicine, 2005). Physiotherapists, nurses, doctors and even patients must therefore try to understand and agree upon their roles within the system. One proposed way to achieve this is to review the emergency department team members' expectations and interpretations of the service's components to make team members feel valued and included (Sbiah, 1995).

This research gives each stakeholder category a voice to discuss how physiotherapy could work in the emergency department (Figure 4).

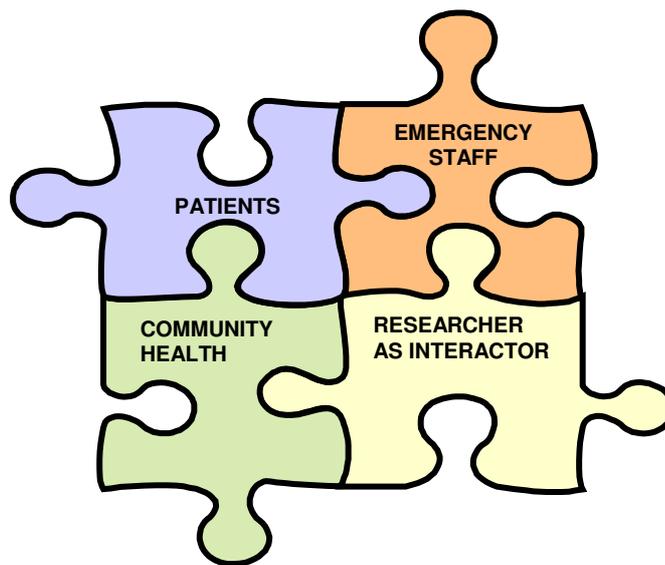


Figure 4: Interlocking stakeholders

There is potential for a more accurate, holistic understanding about what stakeholders interpret the position to involve, what they hope it can offer, concerns about the position and how the emergency system will change under the influence of physiotherapy (Baumann et al., 1998). The intention is not to isolate this research by offering a biased physiotherapy-only perspective, but to offer a collective 'emergency system' view. It is valuable to frame the research in the context of a multiple-stakeholder perspective, where all participants have an active and equal voice in the research process.

2.5 Describing emergency department physiotherapy: current evidence

Chapter Two has thus far explored dimensions including ED physiotherapy's socio-political framework, service delivery problems and an examination of stakeholders to be researched. However, ED physiotherapy's roles and responsibilities have only been discussed superficially. The following section concludes Chapter Two by presenting a narrative

literature review of ED physiotherapy roles adapted from a publication by Anaf and Sheppard (2007c) in the international journal *Physiotherapy* (volume 93 (4), pp. 243-252).

At its simplest, ED physiotherapy describes the extension of clinical privileges to allow physiotherapists to have first-contact practitioner status within the emergency department (Jibuikie et al., 2003). Traditionally, ED physiotherapy falls under the umbrella of an extended scope of practice, defined as clinicians who display considerable depth of academic knowledge, clinical skills and experience in their area of specialisation, and may be involved in complex treatments beyond the traditional physiotherapy scope of practice (Australian Physiotherapy Association, 2004; Robertson et al., 2003). Extended scope is demonstrated by a physiotherapist's acute musculoskeletal management (Anaf & Sheppard, 2007a), the ordering and interpretation of diagnostic tests such as MRI (Australian Physiotherapy Association, 2004; Jibuikie et al., 2003) and a principal contribution towards discharge planning (Anaf & Sheppard, 2007a; Brandis, Murtagh, & Solia, 1998).

Although the role of the ED physiotherapist in Australia reflects many tasks undertaken in private practice, including first-contact management, it is not an extended scope of practice but rather an advanced clinical practice (refer to Table 2 in section 2.2.2.2). The nature of the work environment is the most significant difference for clinicians; a high-pressure multidisciplinary clinical environment (Anaf & Sheppard, 2007a). This differentiates these clinicians from other musculoskeletal or community physiotherapists by effectively defining them as physiotherapy specialists, responsible for both autonomous and collaborative management of patients who have been triaged in the emergency setting (Anaf & Sheppard, 2007a; Jibuikie et al., 2003).

Emergency department physiotherapy has emerged as a response to emergency department service delivery issues such as burgeoning waiting lists among the non-urgent patient populations attending the department for care (Kempson, 1996; Morris & Hawes, 1996). In addition, their specialist clinical knowledge, particularly with acute musculoskeletal conditions, provides positive clinical benefits to patients (Jibuikie et al., 2003; Rutledge, 2005). However, evidence for the quality, effectiveness and service delivery benefits of using ED physiotherapy services is not well documented. This raises questions about the nature of patient management and the position's contribution to improving service delivery.

Emergency departments are expected to justify service delivery through scrutinising the number of occasions of service (Australasian College of Emergency Medicine, 2004b; Australian Medical Association, 2004), the prioritisation of patients seen by clinicians (Australian Institute of Health and Welfare, 2004b) and exploring innovative approaches to

best use designated funding to improve departmental efficiency (Australian Medical Association, 2004; Taylor et al., 2004; Wilson, 2005). Common emergency department service delivery issues include access block, hospital length of stay and excessive waiting times (as determined by triage category allocation), discussed at length in section 2.3. While such literature discusses emergency department service delivery issues from a general emergency perspective (Liew et al., 2003; Richardson, 2002; Richardson, Asplin, & Lowe, 2002), less is known about how ED physiotherapy influences service delivery, including managing patient populations and clinical conditions. To address this gap, and provide a comprehensive evaluation of the roles and responsibilities of the position, this narrative literature review considers the following question using current evidence:

What does the international literature describe as the role and responsibilities of an ED physiotherapist, including:

1. The current focus on patient populations;
2. The current focus on clinical conditions managed; and
3. The contribution that ED physiotherapy makes to service delivery and quality?

No succinct definition of ED physiotherapy exists in the literature, therefore Anaf and Sheppard developed a definition for use in this review. As stated on page 1:

Emergency department physiotherapy describes a physiotherapy clinician dedicated to working as a member of the emergency department team to manage patients either autonomously or in conjunction with other attending medical or nursing staff (Anaf & Sheppard, 2007a; Morris & Hawes, 1996).

2.5.1 Methods

2.5.1.1 Identification of the literature

Medical database searches provided an appropriate starting point, as described by previous high-quality medical literature reviews (Ada, Dorsch, & Canning, 2006; Issenberg, McGaghie, Petrusa, Gordon, & Scalese, 2005). Searches were conducted using MEDLINE, Cochrane, PEDro, PubMed and CINAHL between 1966 and May 2006. The Google search engine was also used to identify any relevant unpublished studies/ articles in press using the same search terms as those used in the database searches. An experienced allied health librarian was consulted to refine general approaches for sound search strategies using medical databases.

Search terms related to physiotherapy and emergency departments, exploring common synonyms. Keywords were derived from the ED physiotherapy and general emergency department service delivery literature explored previously by the authors. MeSH keywords

were considered initially but it became apparent that some of the terms in the ED physiotherapy literature did not rate in the MeSH systems. Keywords included:

- Physiotherapy [physical therapy] (Morris & Hawes, 1996);
- Physiotherapist [physical therapist] (Jibuike et al., 2003);
- Emergency department [accident and emergency department; A&E department; emergency room] (Anaf, 2005; Jibuike et al., 2003; Richardson et al., 2005; Walker et al., 2006);
- Hospital emergency service (Hastings & Heflin, 2005); and
- Care coordination team (Moss et al., 2002; Taylor et al., 2004).

Keywords were used separately and in Boolean combinations (e.g. 'emergency department' AND 'physiotherapist'), and related link options available in databases (e.g. MEDLINE) were explored when available. Reference lists of identified literature were compared to see if further literature existed. Titles and abstracts of all identified studies were examined, with full copies of the articles gathered if the researchers felt the study was appropriate for the research question, as undertaken by previous literature reviews (Ada et al., 2006; Issenberg et al., 2005).

2.5.1.2 Inclusion criteria

Thirty-two documents were identified relating to physiotherapy in the emergency department. Research had to meet certain criteria for inclusion:

- *Research related to physiotherapy services based directly in the emergency department.*

This provided an important differentiation from studies that evaluated physiotherapy as an on-call service (Reeve, 2003), in accordance with the definition of physiotherapy used for this research, suggesting that the physiotherapist is placed permanently within the emergency department team.

- *Research describing physiotherapy clinicians working either as sole professional practitioners or as members of a broader multidisciplinary team.*

This suggested that, given the general nature of the research question and aims, the role of the physiotherapist would be considered regardless of how the position was integrated into the emergency department.

- *Systematic literature reviews of emergency department physiotherapy and other emergency department physiotherapy research.*

Studies were included irrespective of their methodological design on the condition that

they were experimental studies or described the role of ED physiotherapy.

- *Publication in peer-reviewed journals.*
- *Full-text English language articles.*

Studies were excluded from this narrative review if they did not meet the above criteria (e.g. letters to the editor, non-systematic literature reviews, conference abstracts). No criteria were placed on the types of patients clinicians attended to, or the nature of interventions and outcome measurements used by the researchers. Given the non-specific definition of methodological design that could be used in this review, the authors anticipated heterogeneity of research. As this study did not focus exclusively on quantitative research designs, meta-analytic synthesis of the search findings was precluded. Content analysis was applied as it is a flexible approach to analysing textual data in order to establish links and highlight differences between the data sets (Cavanagh, 1997). It enabled consistent comparison and analysis, for example noting the types of patients treated across the studies, the sample sizes used and the research aims (see Table 6 on p. 55).

2.5.1.3 Critical appraisal

Studies were critically appraised using the format outlined by Law et al. (1998) from McMaster University, Canada. The appraisal tool was selected as it offered different criteria for quantitative and qualitative methodological designs, and had been used in previous allied health literature reviews (Law, Steinwender, & Leclair, 1998; Schabrun & Chipchase, 2006). Application of the critical appraisal system involved evaluating studies with a questionnaire which incorporated the headings shown in Table 5.

Included research was assessed on its capacity to best meet the requirements under each criterion. Most responses required the reviewer to decide whether the articles addressed each heading appropriately (indicated by checking the 'yes' option). If an article inadequately addressed or completely overlooked a particular heading, the reviewers checked the 'no' option. For headings that were inappropriate for a particular research design and did not reflect the article's quality, the 'not applicable (n/a)' option was checked.

Previous literature reviews using the review process developed by Law et al. (1998) have formulated a numerical score so that articles may be compared and contrasted more easily. Using this approach, each response in which a study received a 'yes' equalled one mark, and a 'no' or 'n/a' received no marks. The total number of marks received by an article could then be tabulated. The maximum numerical score possible for quantitative research was 15, and the maximum numerical score for qualitative research was 31 (given the additional

criteria against which these studies were assessed) (Table 5).

Some of the criteria within the qualitative questionnaire lent themselves to more than one appropriate answer. To overcome this obstacle the reviewers decided to compound the marks for these criteria (known in the qualitative form as ‘area of physiotherapy studies’, ‘descriptive clarity’ and ‘trustworthiness’), meaning that the more ‘yes’ answers were obtained in each criterion, the more points were assigned to the study, hence the higher overall numerical scoring possible with the qualitative questionnaire (Table 5).

Table 5: Critical appraisal scoring system

| Quantitative research | SCORE | Qualitative research | SCORE |
|------------------------------|--------------|-----------------------------|--------------|
| • Study purpose | / 1 | • Study purpose | / 1 |
| • Literature | / 1 | • Literature | / 6 |
| • Design | / 1 | • Design | / 3 |
| • Sample | / 2 | • Sample | / 3 |
| • Outcomes | / 2 | • Descriptive clarity | / 5 |
| • Interventions | / 3 | • Procedural rigour | / 1 |
| • Results | / 4 | • Analytical precision | / 2 |
| • Conclusions | / 1 | • Auditability | / 2 |
| | | • Theoretical connections | / 1 |
| | | • Trustworthiness | / 5 |
| | | • Conclusions | / 2 |
| MAXIMUM SCORE | / 15 | MAXIMUM SCORE | / 31 |

2.5.1.4 Review of the literature

The lead author (Anaf) critically appraised all included studies, then two additional reviewers independently reviewed a random selection of four articles (approximately half the relevant studies) using the same critical appraisal process. Studies were ranked according to the methodological hierarchy of evidence outlined by Sackett et al. (2000). This was particularly pertinent for studies using quantitative methodology as it enabled description and ranking of the most popular styles of research design on the topic of ED physiotherapy.

By not stipulating specific research designs in the inclusion criteria, heterogeneity of studies was anticipated; data analysis and extraction were developed to accommodate this. Studies were evaluated through content analysis, consistent with other literature reviews where numerous different research methods have been evaluated (Merkouris, Ifantopoulos, Lanara, & Lemonidou, 1999; Sirola-Karvinen & Hyrkas, 2006). Each study was analysed by

comparing and contrasting text related to aims and methodological design; sample and sampling strategies; clinical setting; patient conditions; physiotherapy interventions; outcome measurements; and results.

2.5.2 Findings

In total, nine articles were identified that discussed, in part or in whole, physiotherapy based within an emergency department (Table 6).

Table 6: Summary of reviewed articles

| Author | Description of study |
|---------------------------------|---|
| <i>Richardson et al. (2005)</i> | This randomised controlled trial was designed to compare the effect of emergency department physiotherapy with routine care for musculoskeletal patients (N=382 vs. N=384). Conditions included acute strains and sprains of axial and appendicular skeleton, soft tissue injuries and whiplash/ torticollis. Patients were found to be significantly more satisfied with emergency department physiotherapy care ($p < 0.001$) however there was a significant difference in health status at 3 months favouring routine care. No significant difference between the two interventions was noted at 6 months. |
| <i>Walker et al. (2006)</i> | This Australian study evaluated whether ‘Timed Up and Go’ is useful for predicting re-attendance to the emergency department within 90 days. The relevance is that the emergency department physiotherapist was administering the test to the N=100 sample aged over 65 years (prospective blinded cohort study). The ‘Timed Up and Go’ test was shown to lack appropriate sensitivity to predict future patient vulnerability in an emergency department setting. |
| <i>McClellan et al. (2006)</i> | A cross-sectional survey design evaluated patient satisfaction with emergency department physiotherapy and the functional outcomes of soft tissue injury comparing physiotherapists, doctors and nurses (N=780 for satisfaction questionnaire; N=489 for soft tissue injury study). Fifty-five percent of patients were very satisfied with emergency department physiotherapy management, compared with 39% for nursing and 36% for doctors. Time spent waiting to be seen by a physiotherapist was, on average, 43 minutes compared to 55 minutes for a nurse and 80 minutes for a doctor. There was a trend towards improved pain management and functional outcomes with physiotherapy (not statistically significant). |
| <i>Taylor et al. (2004)</i> | A cross-sectional survey design of 17 Victorian public hospitals explored new emergency department strategies being implemented. Physiotherapists as members of CCTs were used by 8 hospitals; CCTs were the leading new service introduced to Victorian emergency departments; and physiotherapy’s responsibilities in the emergency department were to attend to the clinical needs of the elderly population and coordinate discharge planning from the emergency department. |

| Author | Description of study |
|---------------------------------|---|
| <i>Jibuike et al. (2003)</i> | To assess the effect of emergency department physiotherapy in managing acute knee injuries, a retrospective cohort design using N=100 subjects was developed. Emergency department physiotherapists provided clinical examination and radiological requests. Physiotherapists were shown to make highly accurate and appropriate requests for MRI (88%) and 59% of patients referred to physiotherapy were seen and discharged home without further referral. |
| <i>Brandis et al. (1998)</i> | A descriptive case study evaluated the role of an allied health orthopaedic clinic which supplied services to a Gold Coast emergency department. Intervention was provided for orthopaedic and musculoskeletal conditions in order to facilitate discharge from the emergency department. In the first 6 months of the team's service, 60 referrals were from the emergency department of which 50% comprised back conditions. |
| <i>Morris and Hawes (1996)</i> | One of the earliest emergency department physiotherapy studies, this cohort design between 2 hospitals determined if emergency department physiotherapy was advantageous over routine management for soft tissue injuries. The control hospital had 27 referrals to emergency physiotherapy over a specified time compared to the intervention hospitals 111 referrals. Patient waiting time for the intervention hospital was significantly less, despite a higher number of referrals to the emergency physiotherapists. Conditions managed included ankle, knee and neck sprains and other general musculoskeletal ailments. |
| <i>Smith and Buckley (2004)</i> | To assess the impact of physiotherapy management in an emergency department, a single-case descriptive pilot study was created. The physiotherapists managed musculoskeletal and soft tissue injuries, excluding open wounds, gross limb deformity and neurovascular compromise. Average emergency department physiotherapy waiting time was 29 minutes compared with 46 minutes for conventional care. There were only anecdotal reports gathered of greater patient satisfaction with emergency department physiotherapy. |
| <i>Kempson (1996)</i> | A descriptive single site case study outlined an emergency department physiotherapy service and illustrated approaches to patient management. Emergency department physiotherapists treated axial and appendicular skeletal injuries and also provided gait assessments, exercise prescription, education and strapping techniques. The author recommends that emergency department physiotherapy's role could extend to providing staff education about such conditions. |

Cohort studies (N=4), cross-sectional studies (N=2) and descriptive case studies (N=2) were the most common methodological approaches, with the latter incorporating the single qualitative study identified. Randomised controlled trials (N=1) were minimally represented. Findings were grouped into four key themes, followed by an evaluation of methodological quality.

2.5.2.1 The context of emergency department physiotherapy practice

This literature review uncovered a variety of research methodologies used to explore ED physiotherapy. Some features of the articles influenced the validity of findings to be discussed. Included research came from two regions: Australia and the UK. The Australian articles (N=3) described the role of the physiotherapist as being part of an emergency department allied health team, known either as a CCT (Taylor et al., 2004) or an allied health team (Brandis et al., 1998; Walker et al., 2006). These articles described physiotherapy's role within the context of these broader allied health teams, which include occupational therapy, social work and aged care nursing (Taylor et al., 2004; Walker et al., 2006).

The articles met the inclusion criteria for this literature review so remain a valid contribution to the ED physiotherapy evidence base, especially in an Australian context. However, the Australian articles were much less specific in describing the role of ED physiotherapy as an isolated entity; discussion was almost always related to the role of the CCT/allied health team in managing patients. Information pertaining to the role of the ED physiotherapist was targeted and discussed where possible. Studies emerging from the UK (N=6) focussed much more specifically on the role and effectiveness of ED physiotherapy and constitute the significant majority of the clinical evidence cited in this literature review (Jibuikie et al., 2003; Kempson, 1996; McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005; Smith & Buckley, 2004).

2.5.2.2 Emergency department physiotherapists managing patient populations

All studies found that ED physiotherapy managed adult populations (Brandis et al., 1998; Jibuikie et al., 2003; Kempson, 1996; McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005; Smith & Buckley, 2004; Taylor et al., 2004; Walker et al., 2006). Emergency department physiotherapists did not appear to manage paediatric conditions as no studies described such a sample. As part of their sampling inclusion criteria, two studies (Jibuikie et al., 2003; Smith & Buckley, 2004) indicated that paediatric patients were eligible for management by the ED physiotherapist. They suggested that paediatric patients would have been managed for musculoskeletal conditions such as acute knee injuries (Jibuikie et al., 2003). However, neither study detailed the specific nature of the paediatric conditions and subsequent interventions.

The role of ED physiotherapy was discussed more specifically in relation to the ageing patient population (Taylor et al., 2004; Walker et al., 2006). It is presumed that this

population's complex medical presentations, usually related to co-morbid health conditions affecting their principal cause of injury and illness (Walker et al., 2006), will often warrant physiotherapy intervention, for example to analyse gait function (Walker et al., 2006) in order to encourage greater independence in the community (Taylor et al., 2004). The role of ED physiotherapy was, in these instances, to provide early intervention and assessment of ageing populations by evaluating their daily living activities and contributing to the emergency department's discharge planning requirements (Taylor et al., 2004; Walker et al., 2006).

The literature shows a varying focus of physiotherapy management on patient populations depending on the emergency department's location. In Australia, ED physiotherapy services placed strong emphasis on the ageing population, consistent with service delivery problems such as elderly patients being re-admitted to the emergency department following discharge (Walker et al., 2006), and inadequate post-acute/ community management or long term resources for elderly patients (Taylor et al., 2004). This contrasted with some UK studies. Research conducted by Jibuikie et al. (2003) indicated that ED physiotherapists specifically targeted patients with acute knee injuries (e.g. meniscal injuries and cruciate ligament damage) in an attempt to streamline the referral service between the attending junior doctor and the specialist orthopaedic surgeon in the hospital's knee clinic. Targeting these patient populations resulted in a significant reduction in workload for the orthopaedic team, ultimately saving medical time (Jibuikie et al., 2003). Similarly, Richardson et al. (2005), and Morris and Hawes (1996) cited an ED physiotherapy focus on patients with musculoskeletal injuries in an attempt to reduce referrals to medical review clinics.

2.5.2.3 Clinical conditions managed by emergency department physiotherapists

As stated previously, physiotherapists' roles and responsibilities in the emergency department mainly involve the management of musculoskeletal conditions (Brandis et al., 1998; Jibuikie et al., 2003; McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005; Smith & Buckley, 2004). Studies suggested there was a greater role in managing lower limb conditions, such as ankle sprains (Kempson, 1996; McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005) and acute knee injuries (e.g. medial meniscal injuries) (Jibuikie et al., 2003; Kempson, 1996; Morris & Hawes, 1996; Richardson et al., 2005). There was an expectation for the ED physiotherapist to manage musculoskeletal back injuries (Brandis et al., 1998; Kempson, 1996; Richardson et al., 2005), with less reference made to managing upper limb injury or dysfunction (Kempson, 1996; Richardson et al., 2005).

Physiotherapy services in the emergency department have also been used to manage less prevalent conditions such as minor chest fractures, recent burns limiting joint range of motion (Kempson, 1996), whiplash and torticollis (Richardson et al., 2005), and soft tissue injuries, including haematoma (Kempson, 1996; McClellan et al., 2006; Smith & Buckley, 2004). Kempson, in particular, described her ability to manage minor chest fractures and recent burns as patients were able to attend the emergency department for physiotherapy intervention over a period of days; their injuries were often at the sub-acute stage of healing (Kempson, 1996).

Little information is available on additional objective findings such as the mechanisms of injury or illness and specific interventions offered by physiotherapists. It is also unclear how much time the physiotherapists were able to spend with individual patients in the emergency department environment and whether this influenced their selection of which patients to manage. There is scope to further explore ED physiotherapists' management techniques and workloads in relation to the clinical conditions they manage.

2.5.2.4 Emergency department physiotherapy influencing service delivery and quality

Several studies (N=4) justified the clinical efficacy of ED physiotherapists by comparing their management of predominantly musculoskeletal conditions with routine emergency medical and nursing care (Jibuike et al., 2003; McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005). Clinical efficacy was most often assessed by evaluating patient waiting times and satisfaction levels. The literature infers that ED physiotherapy can effectively reduce the waiting time of patients with musculoskeletal injuries, with a study conducted by Morris and Hawes (1996) showing a statistically significant reduction in waiting times for patients with injuries including acute knee, ankle and cervical sprains ($p < 0.001$). McClellan, Greenwood and Bengert (2006) also found that the mean waiting time for ED physiotherapists was 12 minutes less than that for emergency nursing practitioners and 37 minutes less than that for medical staff when being treated for acute ankle soft tissue injuries.

Given that only one recent article has highlighted the influence of ED physiotherapy in improving patient waiting times (McClellan et al., 2006), it appears premature to state that this is a likely benefit to emergency departments. The literature does, however, suggest that patient waiting times may be a priority area from which emergency departments could benefit by introducing physiotherapy to attend to specific conditions (Jibuike et al., 2003; McClellan et al., 2006) with a view to reducing in-hospital referrals (Jibuike et al., 2003) and

burdensome workloads on other emergency department staff (Jibuikie et al., 2003; Morris & Hawes, 1996).

Only one study used a randomised controlled trial method (Richardson et al., 2005). This research evaluated the time taken for acute musculoskeletal patients managed by ED physiotherapists or medical practitioners to return to 'usual activities'. With a participating randomised sample of 766 subjects, the researchers found that the median time taken to return to usual functional activities was longer in the physiotherapy arm than in the routine care arm, although the statistical evidence was negligible ($p=0.07$). There was no significant difference in the time taken for the patients to return to work between the two clinical arms ($p=0.402$). The researchers concluded that physiotherapy in the emergency department is no better than routine medical care in enabling musculoskeletal patients to return to normal functional status. This is an important finding in the review given the high level of evidence this particular study adopted and the relevance to service quality in the emergency department. It is also the only study in the sample that assessed the quality of physiotherapy interventions in the emergency department, indicating that substantial further research is required to definitively determine their effectiveness (Richardson et al., 2005).

Four studies also evaluated ED physiotherapy's contribution to service quality by measuring patient satisfaction (Kempson, 1996; McClellan et al., 2006; Richardson et al., 2005; Smith & Buckley, 2004). Two measured this through rigorously designed, replicable questionnaires (McClellan et al., 2006; Richardson et al., 2005). All four found that patients considered physiotherapy to be a satisfying contribution to the emergency department for the management of musculoskeletal and soft tissue injuries, and two found that ED physiotherapy is favoured over medical intervention and/or nursing care for treating musculoskeletal conditions (e.g. acute ankle sprains) (McClellan et al., 2006; Richardson et al., 2005). Reasons cited for this included a greater focus on advice and information provided, a better understanding of how conditions should progress and improved satisfaction with the explanation of clinical results (McClellan et al., 2006).

This body of literature makes minimal reference to some of the timely service delivery problems facing emergency departments, including access block and patient length of stay. Richardson et al. (2005) indicated that ED physiotherapists managed patients on the lower spectrum of the British equivalent of the ATS (T3-T5), as this was one of the eligibility criteria for the study. This remains the only specific reference, therefore one can not determine whether or not ED physiotherapy improves adherence to the Triage Scale system.

Taylor et al. (2004) acknowledged access block as one of the most prevalent service delivery

problems in emergency departments and that, commensurately, elderly patients consume a disproportionate amount of emergency department resources. However, given Australia's tendency to integrate physiotherapy within an emergency department CCT, it is difficult to ascertain the specific contribution that physiotherapy (as opposed to occupational therapy for example) makes to alleviating access block. No other studies discussed physiotherapy's contribution to the access block problem, with this remaining a niche in the evidence base.

2.5.2.5 Methodological quality

Studies were evaluated to determine their level in the hierarchy of evidence proposed by Sackett et al. (2000) (Figure 5). There was significant heterogeneity across the levels of evidence, with the highest study meeting the requirements for level 1b (individual randomised controlled trial). At present there is no opportunity to conduct a homogenous systematic review of randomised controlled trials (level 1a) due to the paucity of such research designs in the ED physiotherapy literature. The varying quality of evidence was also reflected by the critical appraisal scores the reviewers allocated to the studies (Figure 6). Figure 6 displays the quantitative studies alone (N=8), as it was deemed inappropriate to compare this group with the lone qualitative study (Kempson, 1996), which scored 7/31. Reviewers agreed that the mid-range quality of evidence illustrated by Figure 5 must be considered when interpreting this literature review's findings.

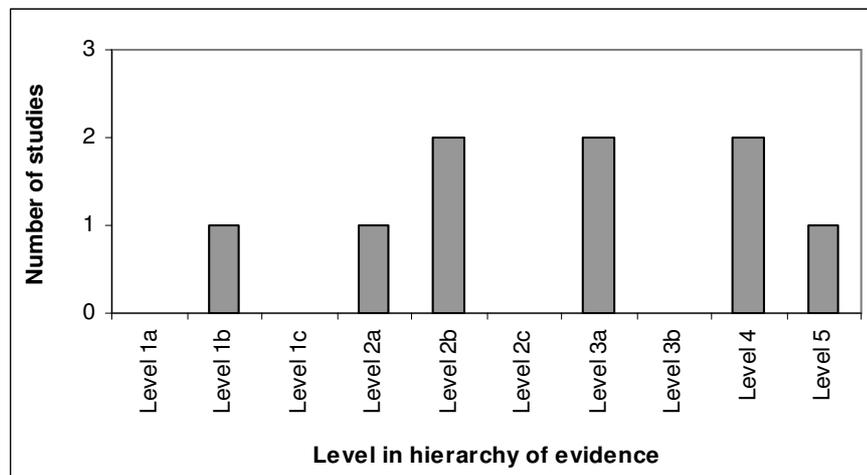


Figure 5: Evaluating articles using the hierarchy of evidence

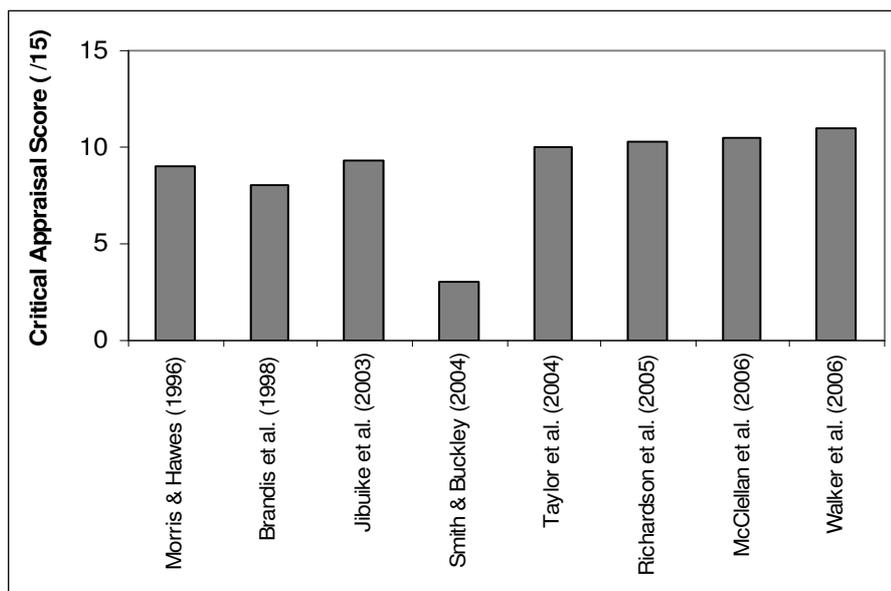


Figure 6: Critical appraisal scores

2.5.3 Discussion

Emergency department physiotherapy is targeting the assessment and management of acute and sub-acute musculoskeletal conditions (Jibuike et al., 2003; Kempson, 1996; McClellan et al., 2006; Richardson et al., 2005). The research clearly suggests that current ED physiotherapy practices target adult populations (Brandis et al., 1998; Jibuike et al., 2003; Kempson, 1996; McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005; Smith & Buckley, 2004; Taylor et al., 2004; Walker et al., 2006), with a particular focus on managing the needs of the ageing population in an Australian context (Brandis et al., 1998; Taylor et al., 2004; Walker et al., 2006). Patients are generally very satisfied with their management by ED physiotherapists (McClellan et al., 2006; Richardson et al., 2005), although there is no conclusive evidence that ED physiotherapy interventions for musculoskeletal ailments are any better than routine emergency medical care (Richardson et al., 2005).

The findings do not preclude the possibility that physiotherapy may be appropriate for other conditions such as respiratory care. Rather, the included body of literature may reflect the frequency of musculoskeletal cases or an increase in ageing patients attending the emergency department for care (Anaf & Sheppard, 2007a; Taylor et al., 2004). It is not clear from the literature why ED physiotherapy is being established, but hospitals may seek an innovative workforce strategy to address systemic problems such as excessive waiting lists or inappropriate use of emergency department resources (Kempson, 1996; Morris & Hawes, 1996; Taylor et al., 2004). Most of the clinical conditions and populations managed are commonly treated by physiotherapists in private practice or outpatient clinics; it is the nature

of the work setting that appears to be the biggest variable in this instance. Therefore, it is difficult to determine whether extended clinical privileges are bestowed upon physiotherapists but are not being reported by the research (e.g. Jibuike et al. described an opportunity for physiotherapists to order magnetic resonance imaging), or the so-called 'extended' scope is limited to only being located within the emergency department. The latter would then be more appropriately known as an 'advanced' scope of practice, which is when a physiotherapist uses advanced clinical skills in a new work setting (Nall, 2005b; Woodhouse, 2006).

2.5.4 Limitations of research

A concerted effort was made to uncover all research relevant to the topic. However, the authors acknowledge that some research may not have been discovered. In Australia, the field of ED physiotherapy is a timely topic, evidenced by increasing consideration of its role within the Australian Physiotherapy Association (Australian Physiotherapy Association, 2005; Nall, 2005b). The relevance of findings from this review will need to be updated as the volume and quality increases over the coming months. In retrospect, the broad nature of the inclusion criteria meant that several Australian studies were included on technicalities but were not very specific in their description of ED physiotherapy's roles and responsibilities (Brandis et al., 1998; Taylor et al., 2004; Walker et al., 2006). Although useful details were ascertained from these studies, particularly in relation to the populations managed, the authors concede that these studies add little to the enhanced understanding of ED physiotherapy efficacy, which was more apparent in the UK body of evidence (Jibuike et al., 2003; McClellan et al., 2006; Richardson et al., 2005).

2.5.5 Research aims and objectives

An extensive literature review was undertaken as a prelude to developing the research aims and objectives for this dissertation. Emergency department physiotherapists provide a hands-on, educative, team-based role for patients of all ages with a myriad of conditions, yet a dearth of evidence has seen rudimentary descriptions of managing a majority musculoskeletal caseload only. This is despite the fact that research suggests there are many other factors that make a new service effective, including how it meets the needs and expectations of patients and other staff stakeholders (Atwal & Caldwell, 2002; Grimmer et al., 2000); how it fills service delivery niches (Anaf & Sheppard, 2007a; Rogers et al., 2004; Taylor et al., 2004); and the intervention's proven clinical effectiveness (McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005).

No research has been conducted on what different health professions and the public anticipate ED physiotherapy to be, or how it will change the team dynamics and responsibilities in a controlled, historically paternalistic setting (Australasian College of Emergency Medicine, 2005). Further, no studies look at how ED physiotherapy influences collaboration with the community health sector, despite the fact that patients, by their very nature, act as a link between the two divisions and physiotherapy is known to have a key discharge planning role (Cunningham et al., 1995; Guttman et al., 2001; Malone, 1998; Moss et al., 2002; Taylor et al., 2004).

This thesis aims to address some of the gaps in the evidence base before there is nation-wide implementation of ED physiotherapy. A critical variable is how physiotherapy as a profession can negotiate a role and identity in a non-traditional, emergency setting, as these will influence the long-term outlook and scope of practice for the position. Two critical issues can offer insight into the roles, responsibilities and collaborative potential of ED physiotherapy from the key stakeholders' perspectives. There is a need to:

1. Identify stakeholder expectations and interpretations of physiotherapy's role in the emergency department, by exploring:

- How do different stakeholders describe the role of physiotherapy in the emergency department?
- What do these stakeholders expect the position to provide in the context of their environment?

And

2. Consider stakeholder perceptions of how physiotherapy contributes to the emergency department system by exploring:

- How do the stakeholders believe physiotherapy will contribute to the effectiveness and efficiency of the emergency department?
- What networks and partnerships are the most effective or important to establish?
- What are the potential implications for strengthening ties with external primary care providers?

Addressing these critical issues will enable the critical objective of:

- **Developing and presenting conceptual models of physiotherapy's integration into the emergency department system.**

3 Theoretical Framework

3.1 Introduction

This chapter investigates the three core theoretical elements which formed the research methodology. An innovative, heuristic model was developed blending interpretivism, systems theory and comparative, instrumental case study techniques. Section 3.2 describes the researcher's responsibilities in achieving a qualitative, interpretivist feel to the research. It identifies the features of interpretivist research that have shaped the conduct of the study and the value of subjective viewpoints in exploring the research phenomena more holistically.

Section 3.3 traces the historical origins and more recent applications of systems theory to health services research. Systems theory has seldom been used in physiotherapy research, although it has an established role in general health system evaluations. This section shows how principles of General Systems Theory (GST) and Soft Systems Methodology (SSM) were combined to provide a unique systems 'framework' specific to Australian ED physiotherapy. Importantly, GST was the dominant theory but SSM added a focus on cultural and political themes within the emergency department environment.

Section 3.4 provides a synopsis of case study research and how it was appropriately aligned with systems theory into a heuristic model. Case study research techniques also informed the research method. Particular detail was paid to aligning the comparative case study approach with systems theory, described in section 3.4.2 and which formed the publication: Anaf, S, Drummond, CE and Sheppard, LA (2007), Combining case study research and systems theory as a heuristic model, *Qualitative Health Research*, 17 (10), 1309-1315.

3.2 The interpretive framework

. . . the interpretive approach is the systematic analysis of socially meaningful action through the direct detailed observations of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds (Neumann, 1994 in Veenstra, 1999, p. s.19).

Scientists (including physiotherapists) risk losing a deeper understanding of the needs of their patients or subjects in the community, and the directions of their professional service generally, by staying within the traditional, positivist tenets of clinical research (Van Erp, 2002). This dissertation explores stakeholder *perceptions* of physiotherapy's contribution to

the emergency department setting. Perceptions are not easily answered by positivist methods, as perception implies individual insight or reflection of a situation; thoughts, feelings and personal ideas. Interpretivism was selected because findings would be meaningful to the stakeholders involved.

Interpretivist research explores participants' perceptions of a research situation (Parry, 1997). Parties external to the research are given insight into the social reality of the researcher, who controls the research direction, as well as participants' informal norms (Veenstra, 1999). Interpretivism in this research guided the qualitative research context and contributed to the selection and analysis of data sources. While systems theory explored features of the emergency department and community sector, interpretivism reflected on these features by offering a deeper philosophical framework and meaning (Daley, 1997). Ultimately, there could be no understanding without participants' and researchers' interpretation of events in the social world (Angen, 2000).

Interpretivism is distinguished from positivism in that information is firmly located within the subjective realm (Greene, 1992). Objectivity of research findings is virtually impossible given the subjective selection of detail the researcher chooses to report. There is also subjective interpretation of research participants' questions, thoughts, perceptions and feelings. As Veenstra (1999) elucidates, ' . . . facts are fluid and embedded within a meaning system; they are not impartial, objective and neutral' (p.s19). Interpretivism acknowledges social constructions of behaviour (Angen, 2000) and is guided by how people interpret and make meaning of situations (Daley, 1997). For example, through surveys, questionnaires and interviews, stakeholders revealed their interpretation of how physiotherapy could (or does) influence the emergency department system, drawing on their role (or meaning system) as a patient, doctor, nurse or physiotherapist.

Applying interpretivism meant respecting its theoretical principles while using it to enhance the validity and usefulness of research findings. Debatably, this was complicated by multiple influences on this study's methodological design. Interpretivism may sit comfortably within its traditional phenomenological framework, but there was much less exploration of its application in the *systems-framework–case study* model of this research (Anaf et al., 2007). It necessitated 1) understanding what the responsibilities were, as the researcher, to apply and validate the interpretivist framework; and 2) developing data techniques and strategies that complemented interpretivist ideals.

The researcher's responsibilities towards the interpretivist paradigm could be summarised into five distinct roles:

1. **Being adaptable:** This involved being attuned to the wide variety of research settings and situations that arose (Parry, 1997). The researcher modified the objectives for the research to the environment which was occupied. Flexible avenues of research enquiry were pursued, which meant not steadfastly following a research format that might impede the quality of information and meaning derived from participants' answers (e.g. structured, closed questions during interviews and in survey development) (Parry, 1997).

2. **Acknowledging personal beliefs:** The researcher's clinical and research experience, interpretation of the philosophical framework and personal values had some bearing on the way research questions were selected and subsequently explored (Crossan, 2003). The researcher is a member of the physiotherapy profession, where there is undeniable clinical and anecdotal evidence for a push towards multidisciplinary work environments and evolving skill mixes with doctors, nurses and other allied health professions (Anaf & Sheppard, 2007a; Australasian College of Emergency Medicine, 2005; Daker-White et al., 1999). Truly understanding the contribution of ED physiotherapy and how it influences the emergency department system can not come from isolated physiotherapy opinion. The emergency department system is a well defined and researched entity using many different professionals and skills (Australasian College of Emergency Medicine, 2005). In an effort to decrease the professional silos that may arise by having physiotherapy come into the emergency system, reflection was needed from different yet key stakeholders to give a more representative opinion.

3. **Being an interactive researcher:** Interpretivism means being committed to pursuing the participants' meanings and understandings (Crossan, 2003). One does not seek to generalise findings or demonstrate objectivity, because no one participant is the same as another (Crossan, 2003). Being an interactive researcher immersed in the research situation allows a focus on the more important tenet of meaning and the depth of understanding through dialogue and debate (Crossan, 2003). Gergen (2002, p.187) summarises this best, stating:

. . . the interpretivist recognises the intelligibility of multiple realities and senses of the good and in doing so, alerts us to the necessity of 'cross talk', the unfolding conversations that can bring otherwise antagonistic parties into a condition of mutual enrichment.

Importantly, results are also obtained through a researcher-focused collection of data, providing consistency across the cases and participants explored (Parry, 1997). The researcher has the ability to listen to all perspectives and interpret meaning, as he or she has been interactive and communicative with the participants from the outset.

4. **Being willing to learn:** Documenting field notes of the cases, writing reflective journal entries of the study process and thoroughly researching methodological philosophies allowed the researcher to learn how techniques and experiences shaped the dissertation (Thorne, Kirkham, & MacDonald-Eames, 1997). As the researcher made inquiries, there was a parallel goal of learning from the process (Walker & Dewar, 2000). Although researchers may idealise that participants, too, will learn from being involved in the research process to varying degrees, it is more likely that the learning effect will mainly be the researcher's. Learning how to best extract information and goodwill from the participants is continually assessed so that they are comfortable to offer insights on ED physiotherapy and their experiences with the emergency system (Walker & Dewar, 2000).

5. **Demonstrating commitment:** The interpretive researcher has to be immersed in the study's questions by committing to periodically return to the questions or phenomena (Schwandt, 1994). This allows a better interpretation and inherent feeling of the research situation (Schwandt, 1994). The researcher must commit to uncovering a truth that is meaningful to participants and the research question while acknowledging that objectivity and statistical generalisability will not be obtained. This does not make the interpretivist perspective any less valuable, however. Instead, it draws on themes consistent across the stakeholders to provide an accurate exploration of the research phenomena. Committing to an interpretivist approach still permits the study to be judged on pragmatic bases, such as its usefulness and whether it generates further inquiry (Schwandt, 1994).

After establishing the five core responsibilities of being an interpretivist researcher, it was important to broadly align theoretical principles with appropriate data techniques and strategies. Systems theory (Section 3.3) and case study research (Section 3.4) also dictated the research method (Chapter 4).

Firstly, debate arose about whether to recruit a small or large qualitative sample. While quality of the participants rather than 'numbers' was a primary consideration for the study, some researchers believe that having a large data set can encourage a positivist mentality towards analysis (Travers, 2001). Others argue that larger sample sizes in qualitative research can enhance findings' analytic generalisability (Parry, 1997; Veenstra, 1999). Given the additional influence of case study research modelled on Stake's qualitative approach (Stake, 1995, 2005) and the 'generalisability' sought within systems theory (Checkland, 1999; Keating, 2000), a larger qualitative sample for this study was

theoretically justified.

Interpretive research is strongest when it relies on a robust database to make valid and confident claims about what is shared and what is opposed between participants' views (Thorne et al., 1997). However, it should not be at the expense of deeper meaning and insight. This research used open-ended techniques to guide much of the data collected. A purposeful selection of stakeholders was the appropriate recruitment strategy (Thorne et al., 1997).

Secondly, interpretivism encourages the researcher to be the prime data gathering tool (Parry, 1997), as this enhances the meaningfulness of subjective viewpoints. There is consistency of data collected from the participants and it supports the researcher's engagement in the study's naturalistic milieu (Veenstra, 1999). Dedicated periods of observation were conducted in each emergency department to witness first-hand how the systems operated, and how the patients and staff interacted (Parry, 1997). The researcher accepting participants' varying opinions as their 'truth' lies at the core of interpretivist inquiry (Gergen, 2002). The researcher strives to minimise his or her feeling that their own thoughts are 'superior' or that one participant's view is 'truer' (Gergen, 2002). As Greene (1992) notes, 'different ways of seeing give us different worlds'. Participants are not treated as mere numbers or objects. Instead, the researcher focuses on the individual's voice (Gergen, 2002). In-depth interviews were an ideal medium, but open-ended questions, particularly 'how' questions in the surveys and questionnaires gave remaining participants as much opportunity as possible to articulate their views (Schwandt, 1994).

Finally, an interpretivist framework encourages flexible and multiple data collection methods (Lin, 1998; Parry, 1997); observations, interviews and other qualitative modalities to provide a rounded picture of the research phenomenon rather than seeking an absolute truth or conclusion (Lin, 1998). Techniques, such as writing in a field journal, encourage watching, listening and reflecting throughout the data collection process (Schwandt, 1994; Van Erp, 2002). Such methods permit inductive data analysis and, eventually, theory development (Parry, 1997).

In summary, an interpretivist approach to the dissertation was adopted to use multiple qualitative methods, explore different stakeholder perspectives and encourage an inductive approach to data analysis (Gergen, 2002; Lin, 1998; Parry, 1997; Schwandt, 1994). It clarified the researcher's responsibilities towards leading the study, and reinforced that there was no absolute truth to come from the research questions, only the pursuit of a thorough, holistic view of ED physiotherapy within the case boundaries.

3.3 Systems theory

Systems theory has an established reputation of relevance and applicability to health care research (Dooris, 2005; Keating, 2000; Sturmberg, 2004). Health care facilities use the principles of systems theory to explore innovation, change and complexity of service delivery and integration (Checkland & Scholes, 1990; Keating, 2000). A systems approach was appropriate due to the constructs of inter-relatedness of system features, acknowledgement of the external environment and the evolutionary nature inherent in hospital systems and broader health care environments (Flood & Jackson, 1991; Mickan & Boyce, 2002). The emergency department, and each profession working within it, have complicated social, organisational and clinical features. The strength of applying a systems approach to explore ED physiotherapy was that it embraced these complexities in pragmatic way while enabling a move away from more traditional scientific reductionism. This suited the collection of qualitative forms of data.

3.3.1 Origins of systems theory

The historical origins of systems theory come not from the organisation-oriented focus of this research, but from empirical sciences such as biology and physics. In its earliest form, Köhler's *physical gestalten* proposed basic concepts of holism in systems. Systems theory has become reliant upon this as a point of theoretical differentiation from other scientific ideologies ('gestalt' meaning 'whole' or 'form') (von Bertalanffy, 1968). In the early 1960s, Kurt Lewin expanded Köhler's work to build his 'field theory'. He used ideas discussed by Köhler's contemporaries Max Wertheimer and Kurt Koffka to suggest that *physical gestalten* were viable in social contexts and social sciences such as psychology, especially as it enabled consideration of interrelationships between individuals, groups and society (Hoos, 1972). But systems theorists generally acknowledge that modern systems thinking was most widely publicised through the work of Ludwig von Bertalanffy, who refined General Systems Theory (GST).

GST is a specific approach that seeks a common 'language' to unite the scientific community (Midgely, 2000). As a biological scientist, von Bertalanffy had a particular vision as to how GST should differ from other specific systems methodologies. These could be summarised into major themes, including:

- A general tendency towards integration in the various sciences, natural and social;
- Integration centred in a general theory of systems;
- Aiming for exact theory in the non-physical fields of science;
- Developing unifying principles running 'vertically' through the universe of the

individual sciences with a goal of unity in science;

- Leading to much needed integration in scientific education (von Bertalanffy, 1968, p.38)

The development of this common language represents von Bertalanffy's idea that individual sciences are often constrained by their discipline-specific boundaries and narrow viewpoints, restricting their scope of inquiry. A system is therefore an excellent illustration of how the single concept can be applicable to all manner of sciences; to cells, solar systems, animals and communities (Midgely, 2000). However, with this comprehensive and holistic way of looking at the world, and given the numerous possibilities for labelling and describing systems across the sciences, a precise definition relevant to each individual research project is often elusive or ambiguous:

So reified and ratified, the system is what they say it is, what they conceive it to be. This they study; this they manipulate according to the rules they have set (Hoos, 1972, p. 17).

What rules have been set to describe the system now becomes the researcher's focus, shifting from asking 'is the emergency department and physiotherapy a system' to 'what features of the system are pertinent to the research questions'?

Any system is classified as such if it is a whole consisting of two or more parts (Bierema, 2003). Multiple parts give potential to multiple relationships between those parts and these elements should affect each other over a period of time striving towards a common purpose (Bierema, 2003). This could be as small as a disease pathogen infiltrating a body or as large as a multinational corporation seeking to improve its profit margins. In the 1960s von Bertalanffy noticed a trend towards systems thinking in a variety of domains. For example, in politics 'an interrelationship exists between all elements and constituents of society' (p.4); and in operational research (as von Bertalanffy noted from even earlier work by Ackoff in 1959):

The tendency to study systems as an entity rather than as a conglomeration of parts is consistent with the tendency in contemporary science no longer to isolate phenomena in narrowly defined contexts, but rather to open interactions for examination and to examine larger and larger slices of nature (p.9).

This led to the conclusion that the features of organisation also transcended the fields of sciences, so that organisms and societies alike were exposed to GST concepts of hierarchical order, wholeness, growth and domination (von Bertalanffy, 1968). Concurrent with this perspective, Litterer (1969 in Atkinson & Checkland, 1988) stipulated that the hallmarks of any system include interrelationships, interdependence, holism, goal seeking and transformation.

Systems theorists still argue that one of the most important features of a system is that it will no longer exist if it is split into parts, in much the same way a body would fail if each organ were a completely isolated entity (Bierema, 2003; Patton, 2002). The effect of a system, such as an emergency department, results from the summation of its parts. An alteration to one of those parts can influence the system's performance (Rhydderch, Elwyn, Marshall, & Grol, 2004). Enhancing one aspect of a system will largely depend on the interaction with other features of that same system (Rhydderch et al., 2004). If, for instance, one considers implementing new aspects of clinical care (such as physiotherapy) into a well-defined, established system (the emergency department), one should consider the interplay between the individual facets within that system (e.g. staff, patients and resources) and how this might affect the system as a whole.

The idea of systems involving many parts and many relationships is reflected in some of the earliest ways of thinking about systems. There was historically a division between *mechanists*, or those who considered all things to have a precedent, and *vitalists*, who were open-minded about the prospect of unidentified forces controlling more complex entities (Flood & Jackson, 1991). While mechanists were concerned with analysis and reductionism, vitalists sat outside the reductionist paradigm. Flood and Jackson (1991) argue that a mechanistic viewpoint is one where the 'whole' *equals* the sum of its parts. But a system as embodied by more recent systems thinking suggests a 'whole' is *greater than* the sum of its parts. A system relies on its relationships and holistic principles to achieve optimal performance (Flood & Jackson, 1991; Patton, 2002; Rhydderch et al., 2004).

Systems approaches may draw on different professional disciplines for inspiration, ideas and methodology (Hoos, 1972). For instance, sociology and biology are not necessarily exclusive from one another in the context of a research situation or problem; neither are philosophy and psychology. Hoos describes this notion as *gemütlich*, or a congenial relationship, as one draws on numerous concepts and ideas to drive the research question and evaluate the 'whole' under consideration (Hoos, 1972).

The present study concentrates on the human elements within the emergency department system as a way of containing its research scope. It uses stakeholder populations identified in Chapter 2 as well as those inspired by previous research by Anaf (2005). The system is the interactions and interrelationships between these groups in the context of the emergency department environment. One of the most important considerations for taking a systems approach in this research is that it allows relevant individuals in the emergency department system to have their opinions considered, thus considering the real-world practicality that

health professionals inter-relate and do not necessarily work in professional isolation. This provides a more comprehensive examination of the true dynamics of the ‘system’.

Highly relevant to the emergency department setting is the system embodying homeostatic regulation (Flood & Jackson, 1991). Homeostasis is defined as:

Any process which regulates or maintains a system in a stable state in relation to a changing external environment in which this system operates ("Collins Dictionary of Sociology," 2000).

A health care system relies on homeostasis to control the ebbs and flows of resources, technological advances and staffing that may otherwise be its downfall as an imperfect system (Keating, 2000). This implies a self-regulatory approach for improving the system and the relationships within it. Homeostasis reinforces the idea that if one element of the system is compromised, other elements will modify their behaviour in an attempt to regulate the system’s performance. Thus, interrelationship between elements proves to be a key component in achieving homeostasis.

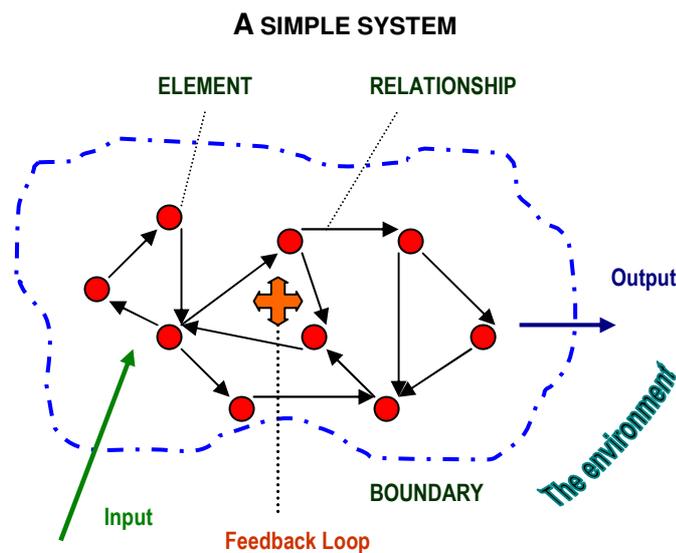


Figure 7: Diagrammatic representation of a simple system

Figure 7 demonstrates the interactions and relationships between elements, indicated in both instances by the small circles and connecting lines. Flood and Jackson’s generic representation could be applied to systems on a minute or grand scale; the elements of interaction and feedback are fundamentally the same. Theoretically, understanding multidisciplinary viewpoints about the use of ED physiotherapy will enhance understanding of how the role can be effectively used and integrated in an Australian health context. In this research, the ‘simple system’ of Figure 7 acts as a guiding reference to how the different stakeholders operate, focusing on converting inputs to outputs, and having special,

interconnected relationships with each other to keep the system going.

Dooris' (2005) evaluation of health promotion and healthy settings within a university system, which focussed on interrelationships between people within the setting (Figure 8), provides an important ideological precursor to this dissertation, as the diagrammatic representation of populations within the university represents a discrete system in itself. The evaluation considered numerous components, populations and issues within the university, exploring the system on a much larger scale.

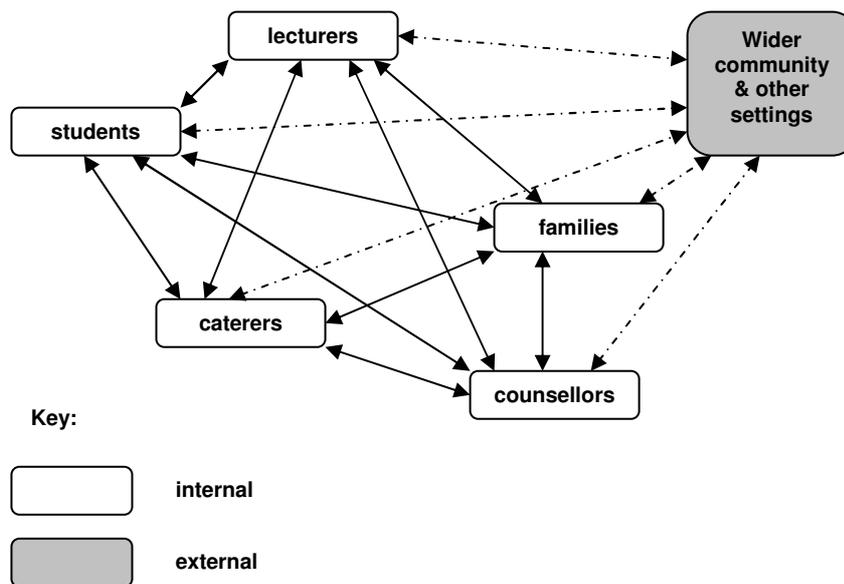


Figure 8: Different populations within a university system (Dooris, 2005, p.61)

Figure 8 illustrates the primary relationships within the system, such as those between students and lecturers. The broken arrows recognise the influence of the external environment (namely the wider community), which was also demonstrated in Figure 7. Importantly, Dooris' system shows that the individual populations have separate tasks, roles and identities, however the combination of populations contributes to the workings of the overall university system, also true of the emergency department setting. This is demonstrated through the collection of data from the various health professionals and emergency department patients.

Taking into account the historical origins of GST, and the approach's core intentions and values, a definition that pertains to this research is:

A system is defined as an organised assembly of components that share a special relationship with each other...The interactions of the components of a system give it a unique behaviour, with each component contributing to, as well

as being affected, by it. In particular no component has an independent effect on the system. Within a system, groups of components may form subsystems with their own unique properties. Boundaries separate the system from an external environment, however the system will receive inputs from its external environment as well as providing output to it (Sturmberg, 2004, p.1033).

This definition is ideal as it recognises that a system is made up of parts (stakeholders), emphasises the relationship between different elements and identifies that the collective effect of the different stakeholders is the key to the system's success. The definition is also adopted because it recognises the potential influence of forces outside the boundaries, which is a crucial consideration in determining the influence of the community health sector on ED physiotherapy.

3.3.2 Systems, metaphors and relationships

There are certain characteristics inherent in any system (Figure 7). The relationships between elements, inputs and outputs contribute to the capacity for systems to be homeostatic (Checkland, 1999). Flood and Jackson (1991) highlight one of the crucial elements of the system; the boundary. System boundaries are variable and subject to different levels of permeability, causing varying levels of separation between the system and its environment (Atkinson & Checkland, 1988; Checkland, 1999). General systems can be classified into two categories: *open systems*, inferring boundary permeability that allows more pronounced relationships between inputs, outputs and the environment; and *closed systems*, suggesting less boundary permeability and more internalised operations (Flood & Jackson, 1991).

Organisational boundaries such as that of an emergency department are often evaluated as being 'underbounded' or 'overbounded' (Alderfer, 1980). An organisation's capacity to achieve the ideal level of boundary permeability can affect its survival (Alderfer, 1980). An overbounded system is so constricted by boundaries and disconnected from the external environment that the organisation can not appreciate changes and variations in the outside world. In contrast, an underbounded system has too much boundary permeability, causing the organisation to become so entangled in the influence of the external environment that it risks losing direction and identity (Alderfer, 1980). Arguably, underbounded systems are at greater risk of failure than overbounded systems, especially due to indecision about professional goals (Alderfer, 1980).

The emergency department system has a clear identity and intent to serve acutely ill patients (Australasian College of Emergency Medicine, 2005). However, Chapter 2 showed that emergency departments are expected to not only administer primary care services but also

act as a social and health care ‘safety-net’ for communities (Guttman et al., 2001; Malone, 1998; Ruffin & Hooper, 2003; Wilson, 2005). Further, the role of physiotherapy in the emergency department and the increasing use of care coordination structures and new professional roles (e.g. extended nurse practitioners) mean that blurring of professional boundaries is changing the face of service delivery, subjecting professional tasks and roles to poor definition (Anaf & Sheppard, 2007a; Moss et al., 2002; Taylor et al., 2004; Tye & Ross, 2000). Therefore the emergency department system is classified as underbounded; it is subjected to significant external influences and poor goal definition. This situation reinforces the appropriateness of pursuing multiple stakeholder perceptions of the system as a way of identifying themes and ideas about physiotherapy’s role within that system.

GST recognises that systems operate within many different settings and has broadened the categories of systems beyond the simplistic notions of open and closed, which are unsatisfying when selecting an appropriate systems perspective. It is now acceptable to consider systems research in five distinct systemic metaphors, as outlined in Table 7.

Systemic metaphors were derived from an exploration of paradigms by authors such as Morgan (1980). Paradigms, at their most basic level, are a somewhat ordered view of the realities that govern our thinking. They reflect a way of ‘boxing’ logic to synthesise ideas and outline aspects of these that may or may not correlate with each other. Paradigms are a way of understanding the world and society. In research, they direct the methodological approach taken. Checkland and Scholes (1990) provide an excellent illustration of how the world is perceived from different viewpoints:

When the Spanish conquistadores arrived in what is now Mexico, the indigenous people, unfamiliar with horse-riding and seeing riders dismount from horses, thought that creatures had arrived on their shores who could divide themselves in two at will (p.45).

This example illustrates a Kantian⁶ approach, which inspires interpretivism, arguing that there are ideas present in us that allow us to interpret the outside world (Checkland & Scholes, 1990).

⁶ Immanuel Kant (1724-1804) also believed that society depends on people having interactions and interrelationships; a view complimentary to systems theory principles (Papadimos, 2007).

Table 7: Systemic metaphors

| Systemic Metaphor | Description |
|---------------------------------|--|
| Machine metaphor | <ul style="list-style-type: none">• Classically a “closed” system• Responds well to pre-determined objectives• Suitable for stable environments and straightforward tasks• Unsuitable for environments subject to change |
| Organic metaphor | <ul style="list-style-type: none">• Typically an “open” system• Considers the psychological and social elements of a system for improved performance• Responds well to changing, complex and competitive environments• Unsuitable for understanding conflict in the organisation |
| Neurocybernetic metaphor | <ul style="list-style-type: none">• Emphasises active learning in a system• Accepts dynamic aims over static ones, self-questioning over self-regulation• Suitable for systems with high levels of uncertainty and/or creativity• Unsuitable for acknowledging social constructs in organisations |
| Cultural metaphor | <ul style="list-style-type: none">• Helps organisations react to changes, as well as suggesting the feasibility of these changes• Suitable for encouraging or inhibiting organisational development and addressing cohesion between social and organisational practice• Unsuitable for quick changes, interpreting organisational structure. May also be seen to be exerting ideological control over the system |
| Political metaphor | <ul style="list-style-type: none">• Applied to problem situations, particularly involving power and competition• Suitable for organisations where power is a central component; conflict between achieving goals• Unsuitable for downplaying the role of politics in the system; may also generate mistrust by overemphasising politics |

(Flood & Jackson, 1991, pp.8-12)

Morgan (1980), and Peck and Secker (1999) provide four specific examples of paradigms which impact directly on the systemic metaphors discussed:

- *Functionalist paradigm*: considers the principles of pragmatism very heavily, as this paradigm focuses on the tangible and rational elements of social interaction.

- *Interpretive paradigm*: where the functionalist paradigm is very concrete, the interpretive paradigm particularly advocates a drive towards ordered social roles and greater subjectivism in our reality.

- Radical humanist paradigm: as with interpretivism, society is socially formulated, however, once this has been achieved, it infiltrates most aspects of our life, including our understanding of professional roles and use of language. This may be considered ideological domination (Morgan has coined the term ‘analytic prison’).
- Radical structuralist paradigm: here there is true reality and perceived reality, and the push-pull of people’s interpretation of what is ‘ontologically real’ can shift the system as a whole (Morgan, 1980, pp.608-609; Peck & Secker, 1999, p.555).

Each paradigm comes with associated metaphors. It is the synthesis of these metaphorical features that directs the features of an overall system (Figure 9).

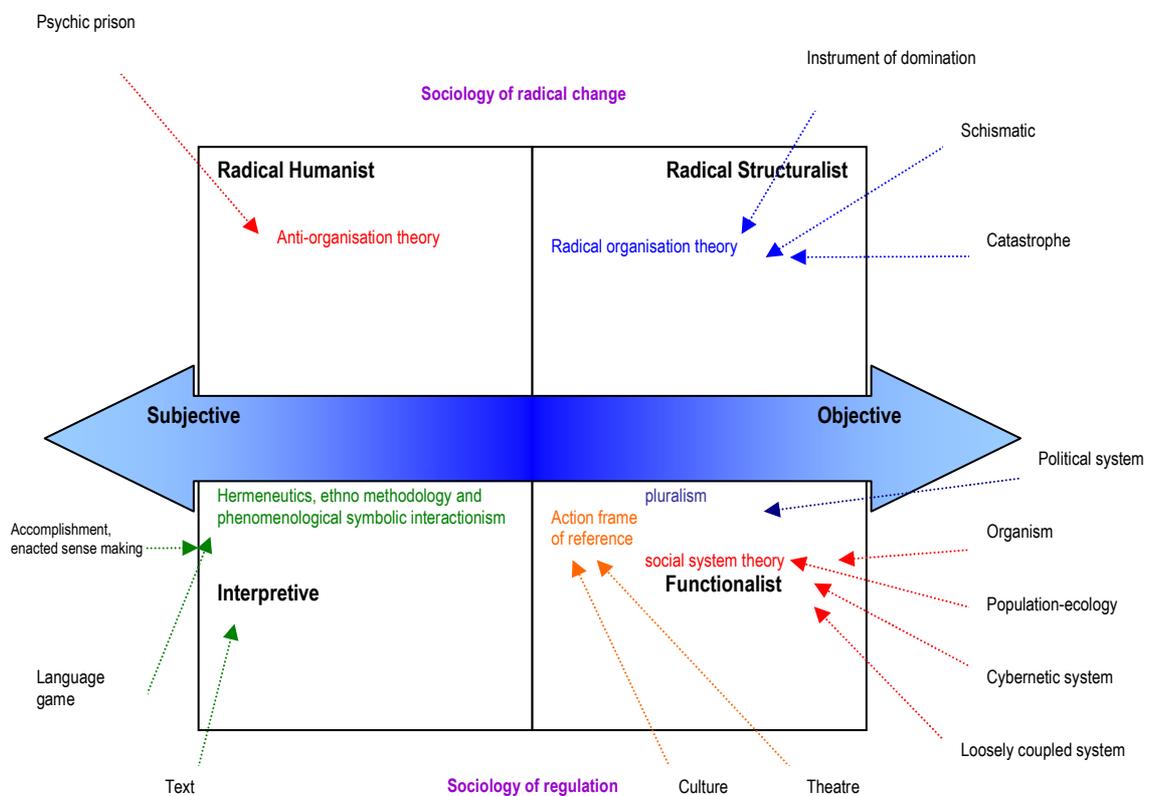


Figure 9: Morgan’s paradigm and metaphor relationships

With ED physiotherapy, one may argue that there is a place for the political metaphor due to the nature of power and hierarchy in the hospital systems, and therefore one should consider whether the research is situated, at least in part, in the functionalist paradigm. Conversely, if research is governed by a phenomenological approach, it may be more accurately situated in an interpretive paradigm, as a significant level of subjectivity is involved in the participants’ responses (Morgan, 1980).

Figure 9 shows the spectrum of paradigmatic subjectivity and objectivity. An important

consideration has been establishing the relevance of interpretivism in this research, and Figure 9 has guided the research conduct. Data collection is primarily concerned with qualitative techniques (e.g. in-depth interviews), making it amenable to the interpretive paradigm, as responses are inherently imbued with individual perceptions. The different stakeholders are elements within the 'system', where it is possible, and advisable, to gain multiple perspectives which, in themselves, enhance research triangulation and rigour. The paradigm-metaphor relationship, as with the five systemic metaphors on their own, allows researchers to notice their system's trends and characteristics, such as the influence of politics and culture in guiding qualitative data collection, while still allowing these ideas and research outcomes to be translated into a real-world situation (as represented by the definition of each case under study).

3.3.3 Types of systems

The emergency department system, of which physiotherapy is a sub-hierarchy, fits within an open-cultural-political metaphor framework. The system is *complex* as there are numerous elements and interactions with the environment, evolving over time (Flood & Jackson, 1991). Physiotherapists as well as doctors, nurses, patients and other stakeholders have their own goals, values and approaches to clinical management. They represent the emergency department system's internal operation, which may interact with external influences such as geographical, cultural, economic and technological components of society (Mickan & Boyce, 2002). In contrast, a *simple* system would have few interactions, well-defined laws of operation and elements that do not pursue their own goals (Flood & Jackson, 1991) (Table 8).

The participants (actors or elements within the system) are classified into three categories: *unitary* (compatible, agreeing upon tasks and their procedures); *pluralist* (some divergence of ideas, but potential for compatibility); and *coercive* (conflicting values and beliefs; poor likelihood for compromise) (Flood & Jackson, 1991, p.34) (Table 8). For this research, the emergency department system is defined as *complex-pluralist*. The various emergency department staff, political influences from within and external to the hospital, the continual evolution of healthcare and increasing extrinsic demands such as clinical benchmarking justify this. Staff genuinely agree on wanting positive patient outcomes, guided by their professional values, but the capacity to practice clinical skills or exert authority over patient management may be compromised (Ovretveit, 1985). For instance, nursing practitioners may have a reduced capacity to exert influence over a patient's course of treatment if there is a doctor also presiding over the case (Tye & Ross, 2000).

Table 8: Matrix of participants and systems creating problem contexts

| | | Participants | | |
|---------|---------|-----------------|-------------------|------------------|
| | | Unitary | Pluralist | Coercive |
| Systems | Simple | Simple-unitary | Simple-pluralist | Simple-coercive |
| | Complex | Complex-unitary | Complex-pluralist | Complex-coercive |

(Flood & Jackson, 1991, p.35; O'Meara, 2002)

A complicating factor in the emergency department system is the expectation that performance frameworks will be achieved (e.g. reducing hospital length of stay). External parties, such as state or federal governments, may impose these, which may conflict with health professionals' opinions of appropriate patient management (Isouard, Messum, Hanson, McAlpin, & Briggs, 2002). However, opportunities exist for resolving problems as they arise, for example through departmental meetings or individual negotiation. An example of all the above can be found in a recent exploration into Victorian rural ambulance services and the formulation of a musculoskeletal clinical service, which also categorised their services as complex-pluralist (O'Meara, 2002; van de Meer, Rymaszewski, Findlay, & Curran, 2005).

Examining GST in relation to the emergency department system has extracted its key properties relevant to this setting. These are summarised in Figure 10.

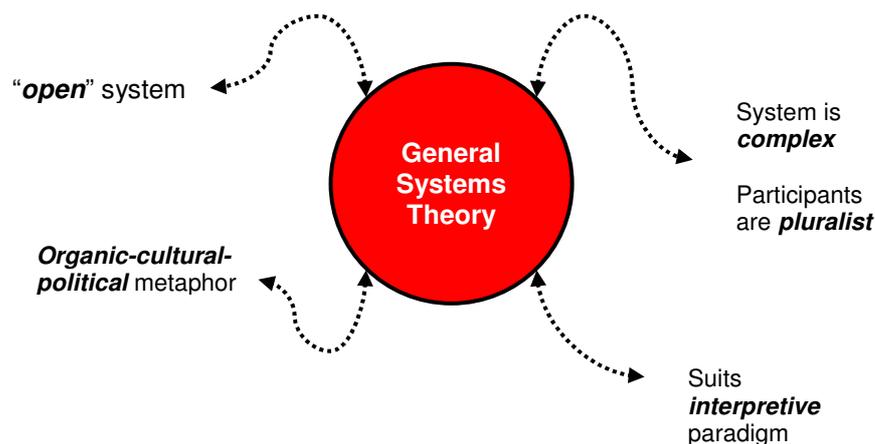


Figure 10: Summary of relevant properties creating the research's systems framework

They not only describe the system to give an understanding of its complexity, but also illustrate the importance of the overarching paradigm (interpretivism) in guiding the data

collection techniques. Identifying that the emergency department problem context is inherently complex-pluralist has encouraged further examination of Soft Systems principles for this research. GST and SSM are most suited to complex-pluralist systems (Flood & Jackson, 1991), with SSM focusing on the cultural metaphor and being open to organic and political metaphors. This is used as a frame of reference in addition to the generic principles of GST.

3.3.4 Principles of 'Soft' Systems

Checkland and Scholes (1990) said was essential to openly declare the intellectual framework governing research. The SSM principles are an appropriate theoretical consideration in this research because they encourage the researcher to reflect on cultural and political aspects of the system under investigation. It is useful in the highly political and medically-dominated culture of the emergency department to see how this influences stakeholders' views on ED physiotherapy. Importantly, this research does not use SSM as a practical method application, because that is firmly grounded in action research as opposed to the systems theory-case study approach proposed. But SSM has inspired an understanding that the human relationships within the emergency department are subjective, variable, unstructured and equally valid for consideration (Checkland & Scholes, 1990).

Hoos once described the intentions of systems theory, and SSM by default, as normative, if not utopian, as it is always striving for the optimum objective (1972, p.8). Theorists have long argued about SSM's capability to robustly answer questions at hand. One conflict in particular, Jackson versus Churchmann, Checkland and Ackoff, can be inadvertently correlated to Hoos' assertion of utopianism. Jackson inferred that the three researchers inadequately considered the real-world potential for irresolvable conflict in organisational environments, partly due to an over-emphasis on subjectivism and the interpretive paradigm (Rosenhead, 1984).

One might conclude Jackson was suggesting that such an approach, one that is 'soft', perhaps idealises complex-coercive situations. Health care environments may be subject to such conflict, with multiple professional stakeholders, changing resources, and external political and financial pressures. However, the emergency department can be broadly defined as complex-pluralist. While a conflict of ideas between stakeholders is likely, ranging from patient management to role delineation, compromise is possible. Truly dysfunctional emergency departments bordering on complex-coercive would be possible, but are generally unlikely as rarely can a hospital function if no-one can agree on anything. Jackson's criticism that SSM is idealistic because of the potential for irreconcilable conflict

is arguably less relevant under the circumstances of this research, because the research does not assume that irresolvable conflict will be an issue. The principles of SSM therefore provide an appropriate additional frame of reference for defining and exploring ED physiotherapy in a regional and metropolitan context.

SSM strategically resolves ill-defined problems (Platt & Warwick, 1995). The term 'soft' contrasts with the long-established 'hard' approach of systems theory, traditionally rooted in fields like engineering and information technology; systems which are more tightly defined and where problems are more obvious and treated as a glitch. SSM differs from almost all other systems approaches in that it is ideally suited to poorly described, poorly researched and complex situations, generally typical of the organic metaphor (Flood & Jackson, 1991; O'Meara, 2003). It is also more appropriate when there are numerous stakeholders in the situation, each having their own world-view, or *weltanschauung*, and thus different perceptions of the problem situation.

SSM can be applied to small or large organisations as long as they are subject to strong elements of social and/or political influence (Checkland, 1999). Socio-political culture can only be understood by researchers immersing themselves in the problem, and gaining a 'feel' for how the system is running and how the stakeholders interpret their world. Systems perspectives, in much the same way as action research, are concerned about how processes are carried out rather than end results (Checkland, 1999). This is also an inherent quality of the interpretive paradigm, driving a researcher-focussed collection of data and immersion in the field (Parry, 1997).

A theoretical advantage in considering SSM as part of the methodological framework is its usefulness in exploring a 'problem opportunity' (Couprie, Goodbrand, Li, & Zhu, 2006). Systems theories are typically used to trouble-shoot existing complex problems in established, long-serving systems. However, there may not be a catastrophic problem per se regarding the operation of Australian metropolitan and regional emergency departments. Instead, room exists to explore different or more optimal situations that might be developed, such as the use of ED physiotherapy. This may have ramifications on the operation of emergency departments, especially considering the specific health concerns and staffing issues in regional and rural Australia (Rutledge, 2005; Sheppard, 2001). This research intends to explore the potential for integrating physiotherapy into Australian emergency departments. Therefore, SSM is useful in directing the thesis to explore an 'opportunity' rather than a 'problem'. The conceptual framework surrounding SSM centres on a premise that there is a theoretical concept (e.g. the ideology and intentions of ED physiotherapy) and

a practical one (e.g. how can ED physiotherapy be integrated within the department), and it is the union between the two that provides the most comprehensive picture of the problem situation (or, in this case, the opportunity situation) (Ledington & Donaldson, 1997).

A health service's structural architecture determines its effectiveness. If this architecture is compromised the service is at risk of dysfunction (Keating, 2000, p.182). A health service or department may be subject to a well-defined history of medical dominance, a culture of hierarchy and a different understanding about what professional roles entail. These issues are difficult to quantify but are intrinsic to the objectives of SSM. It is therefore appropriate to consider soft systems as generally amenable to qualitative exploration, as they appreciate the 'less defined, qualitatively rich and informal nature inherent of organisational structures' (Keating, 2000, p.181).

Although this research is using a systems framework as a way of interpreting physiotherapy's place within the emergency department, the conduct of the research (the *strategy*) uses a case study approach. Applying SSM as the research method would completely change the conduct of the research to one that is action-oriented; one where the participants would be much more actively involved over a long period of time in solving perceived problems, and one that would be most effectively conducted using one site or organisation (Checkland & Scholes, 1990).

In contrast, using case study strategies from a systems framework captures a snapshot of multiple organisations and opinions, establishing a trail of evidence and replicable research design. Building a description of each case and re-evaluating the emergency department system is sympathetic to the aims of a SSM approach. The two approaches have potential to work harmoniously in answering the research hypotheses posed: the GST-SSM framework acknowledges the interrelationships and multiple stakeholders within the emergency department system to help formulate the research hypotheses and guide the selection of participants; and case study method contains the collection of data and analyses the results with a view to providing an insight into each case, or system. Figure 11 summarises the overall systems framework for this research.

Using GST principles to describe the emergency department system indicated a close alignment with SSM, evident from the four interconnecting arrows. The key principles of both GST and SSM apply to ED physiotherapy, and the combination of both theories provides a more useful 'systems framework' for this research than either approach in isolation. However, SSM is secondary to GST in that its main value is in guiding the researcher to explore some political and cultural dimensions of ED physiotherapy. The

application of case study method in conducting the research will be discussed in section 3.4, linking the systems approach with structuring the cases under consideration.

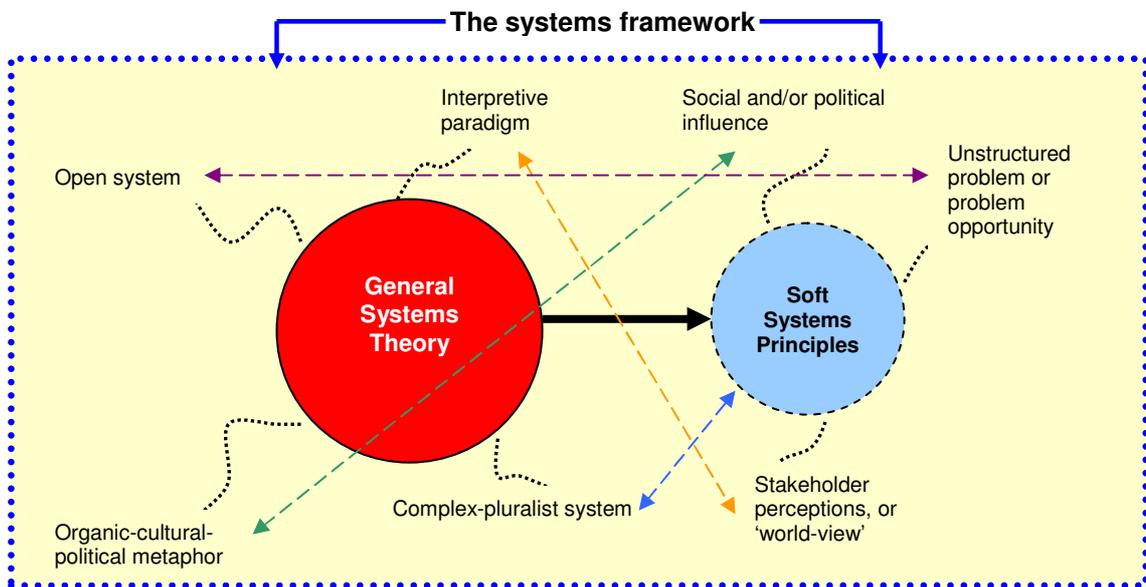


Figure 11: Combining systems principles to create the theoretical framework

3.3.5 Conclusion

This section has evaluated the literature to determine a precedent for using a systems approach to explore ED physiotherapy. Although there is a well-established foundation of systems theory literature and its application to health care research, a systems approach remains an innovative direction for exploring ED physiotherapy. There is a niche, established in Chapter 2, to explore multiple stakeholders' opinions of what ED physiotherapy can contribute to the department. The generic system illustrated in Figure 7, showing the interrelationships between elements and contained within a boundary, becomes a guiding model in which to depict the two emergency departments under investigation. It helps to reinforce these stakeholders as 'elements' within the system, and the emergency department system as underbounded and complex-pluralist.

To summarise the theoretical principles proposed in Section 3.3:

- i. General Systems Theory (GST) argues that the 'whole' is greater than the sum of its parts.
- ii. A system emphasises the interactions and relationships between elements. This research focuses on the human elements within the emergency department system (stakeholders).
- iii. The relationship with the boundary influences the effectiveness of the system.
- iv. The ED physiotherapy system metaphors are defined as 'organic-cultural-political'.

- v. Stakeholders within the emergency department are likely to have a complex-pluralist relationship.
- vi. Soft Systems Methodology (SSM) principles acknowledge that the emergency department system is affected by socio-political and cultural influences, and has poorly defined goals. SSM is used as a secondary theoretical consideration in conjunction with GST, but is not used as a practical application or research method.
- vii. This research has used a systems approach as a way of defining the research hypotheses and selecting stakeholders. The conduct of the research, however, used comparative case study strategies.

3.4 Case study theory

Applying case study techniques to this project emerged as a research strategy several months after the researcher committed to using interpretivism and systems theory. Bryar (1999) contends that case study research is a worthwhile consideration when:

...the question being asked determines the appropriate research architecture, strategy and tactics to be used – not tradition, authority, experts, paradigms, or schools of thought (1999, p.62).

It was timely to capture the perceptions of stakeholders in the emergency department system. As stated earlier, Australian ED physiotherapy is in its infancy and significantly under-researched. Therefore, it was important to challenge the professional silos in which we work *prior* to ED physiotherapy's nation-wide implementation. Systems theory (led by GST with theoretical contributions from SSM) and the interpretivist paradigm could capture these elements rigorously, but case study theory could only be applied if it could act as a practical 'bridge across the paradigms' (Luck et al., 2006).

3.4.1 Case study descriptions

[Case study is] an empirical enquiry that investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident, and in which multiple sources of evidence are used (Yin, 1994, p.13)

Case study methodology offers an empirical form of research enquiry to explore contemporary phenomena (McDonnell, Lloyd-Jones, & Read, 2000). Case study designs enable the exploration of real-life situations or events that need additional recognition and reflection of their complexity, such as a multifaceted health care organisation or department (Luck et al., 2006; Stake, 1995). Case study research is surprisingly sympathetic to the principles of the systems framework described (Figure 11), although limited literature explores the paradigmatic connections between the approaches. It systematically explores events so that the researcher can detail and explain the phenomenon under investigation (Zucker, 2001). This is particularly important when the phenomenon or case under

investigation is poorly understood. Case study research can therefore offer a holistic, in-depth evaluation of the research situation, making it ideally suited to new or poorly researched areas of inquiry such as ED physiotherapy (Tellis, 1997a).

A central tenet of systems theory and the framework proposed for this research is appreciating the value of holism or exploring the system as holistically and fully as possible within the research agenda. As case study is described as a holistic research approach (see Luck et al., 2006; Tellis, 1997b), with the potential to capture the ‘wholeness’ and depth of the two cases used, it complements the ideological intentions of both the systems framework and case study research. Pegram (1999) argues that cases which are revelatory in nature benefit from the holistic investigation offered by case study research. Given the limited literature exploring ED physiotherapy, insight into stakeholder perceptions of the effect of ED physiotherapy on service delivery is a revelatory direction of this research.

Case study research explores single or multiple units under investigation – ‘the case’ – which well known case study researcher Yin (2003) describes as a ‘unit of analysis’, whereas Stake (1995) prefers to think of it as an integrated, complex, functioning system. The ‘case’ has both a uniqueness and commonality that proves relevant and interesting, and will advance the knowledge base of the area being studied (Stake, 1995). Cases may be as straightforward as a single individual (such as a person with a rare illness) or as complex as multiple organisations (Keating, 2000). Case study research is worthwhile when ‘how’ or ‘why’ questions are the focus of the research aims (McDonnell et al., 2000). Such questions encourage consideration of the research questions from different angles and seek to offer some ‘closure’ to the research phenomenon.

Different researchers have different views on how the case is shaped and studied. Yin adopts a somewhat positivist approach, advocating exploration of multiple case studies and development of replication logic to encourage ‘generalisation’ (Yin, 1994, 2003). Many of the tools Yin uses rely on positivistic data, as well as standard approaches such as observations and documentary analysis (Yin, 1994, 2003). However, in this dissertation the researcher needed to consider the theory of interpretivism and systems theory, and integrate qualitative data techniques. Therefore the theories of Stake, another notable case study researcher, were explored, as these are more sympathetic to the qualitative paradigm and more compatible with interpretivist theory because they place greater value on individual meaning. Contrary to Yin, Stake believes case studies should not be selected to produce generalisations, as generalisations can limit researchers getting to the core of meaning (Stake, 1995). The stakeholder groups’ perspectives are built on considered analysis of every

participant's viewpoint (Angen, 2000; Gergen, 2002; Greene, 1992).

All case study research, qualitative or quantitative, is united by the approach to data gathering, including a clear definition of 'the case'; precise research questions; varied and multiple data sources; appropriate allocation of time and resources; and a clear understanding of the intention of reporting (Stake, 1995; Yin, 1994). The qualitative case study researcher must invest time particularly in separating out features of the case (or system) and rearranging these into a meaningful whole (Stake, 1995). Through the process of deconstructing and reconstructing the case, Stake argues that:

[The] case researcher recognises and substantiates new meaning. Whoever is a researcher has recognised . . . a puzzlement, and studies it hoping to connect it better with known things (Stake, 1995, p.97).

Case study research is sympathetic to this thesis' proposed inductive analytic approach to data; building the case, and exploring new avenues of inquiry and different stakeholder viewpoints as they arise, as advocated by interpretivist inquiry (Anaf et al., 2007). Emergency department physiotherapy remains an unfamiliar and obscure clinical field among Australian physiotherapists. A qualitative case study approach is appropriate because, within the cases, the stakeholder views can be gathered, analysed, compared and contrasted between each population and each emergency system, then reassembled into conceptual models with the intention of generating new theory about how ED physiotherapy is integrated in metropolitan and regional hospital scenarios (Eisenhardt, 1989).

Several different case study designs are used in health care research: single; multiple; comparative; embedded; nested; or layered (Patton, 2002; Stake, 1995; Yin, 2003). Each has their own level of complexity and procedures to follow (see inset box). Case study designs also have intrinsic, instrumental or collective approaches to the foci on research phenomena. Intrinsic case study is used when the researcher has an inherent interest and wants to better understand one particular case, without the complication of generalisation or theory building (Anaf et al., 2007). Instrumental case study refers to the examination of cases because they offer insight into a deeper issue. The case may be seen as a typical case or generalisation of other cases, although good instrumental case study should not depend on the ability to defend typicality or generalisation (Anaf et al., 2007; Stake, 1995). Collective case study gathers data from multiple cases to interpret a general condition. These are typically positivistic in nature, given the amount of time and resources that are needed to achieve analysis and replication (Anaf et al., 2007; Yin, 1994).

A comparative instrumental case study methodology was chosen for two reasons. Firstly, the researcher wanted to explore perceptions of ED physiotherapy in a regional setting, yet no viable ED physiotherapy systems were operational in regional Queensland. While the Townsville case could still offer useful and meaningful discussion about how the system *could theoretically* change with physiotherapy in the emergency department, a precedent had to be set by exploring how the system *has changed* at another site. Two cases were therefore the minimum requirement to meet the research aims.

| Terminology | Lay Meaning |
|-------------------------------|--|
| <i>Single case study</i> | The study of one case |
| <i>Multiple case study</i> | The study of many cases |
| <i>Comparative case study</i> | Comparing two or more cases against each other |
| <i>Embedded case study</i> | The study of cases within cases |
| <i>Nested case study</i> | Within one case study, participants are further case studies |
| <i>Layered case study</i> | The study of different layers of case studies |

(Anaf, Drummond, & Sheppard, 2007, p.1310)

Secondly, a comparative instrumental case study design enhanced the analytic generalisability of findings (Shore, 2004). An instrumental approach kept the issue of ED physiotherapy at the forefront of the research investigation (Anaf et al., 2007). Different features of each emergency department acted as obvious barriers to comparison (e.g. regional versus metropolitan location; tropical versus temperate climate; patient demographics). Therefore, across-case agreements represented features of ED physiotherapy that perhaps transcended these barriers to act as a more representative or analytically generalisable finding. The obvious similarities and differences between the cases were secondary to the interpretation of shared phenomena and the strength of different themes between cases (Luck et al., 2006).

3.4.2 Aligning comparative case study research with systems theory

Every case study shares a common identity; that is, it is a ‘recognisable, complex, integrated system [and is] purposive’ (Luck et al., 2006, p.104). Potential exists to align the ‘case’ with systems theory, as the case is already regarded as a bounded system filled with working elements (Anaf et al., 2007; Stake, 1995). An innovative heuristic model aligning case study research with systems theory was developed to link the shared features of these two methodologies. The contents of this section form the publication: Anaf, S, Drummond, C and Sheppard, LA (2007), Combining case study research and systems theory as a heuristic model, *Qualitative Health Research*, 17 (10), 1309-1315.

The first challenge in aligning comparative case study research with systems theory was determining the 'case'. Were the individual stakeholder populations groups the cases? Were the individual participants the cases? Or were the cases bigger than all of the above? A system, as embodied by more modern systems theory, argues that a whole is greater than the sum of its parts. The system was therefore the broadest case framework, combining elements of the emergency department, the stakeholders and the community sector. Figure 12 illustrates how the stakeholder populations are part of a larger network, with likely external influences from the community health system and the emergency department. It depicts the relationships and interdependence between the stakeholders within the context of the broader system. Figure 12 was replicated twice to represent the Austin Hospital case and The Townsville Hospital case. The emergency system is concurrently a bounded case, inferring there are limits and boundaries to contain the scope of the study. There is consequently no exploration of features of the two cases outside of the stakeholder populations and networks in the emergency department and community health systems, acknowledging the parameters of the investigation.

Systems theory involves a holistic exploration of interrelationships and interdependence in the case. This guided the definition of the cases to be the social networks (stakeholder populations) in the two different settings. It not only provided clear boundaries and foci for each case under study but also preserved the integrity of a systems theory contribution, which included interrelatedness and levels of interdependence between the elements – the people – within the case.

Dooris' (2005) illustration of a university system (see Figure 8 in section 3.3.1) is the most sympathetic prior example to the ED physiotherapy 'cases'. Dooris reinforces the primary relationships within the university systems, such as between students and lecturers. Figure 8 also depicts the influence of the external environment (comparable in this research to the wider community sector). Consideration of the external environment in systems research is advocated by Flood and Jackson (1991), and Mickan and Boyce (2002). The eventual analysis of the data is guided by the overall relationship of parts within the system. Thus, in Dooris' example and the present study it is difficult to even attempt to describe the case without inadvertently describing the system because this heuristic model implies they are logically connected.

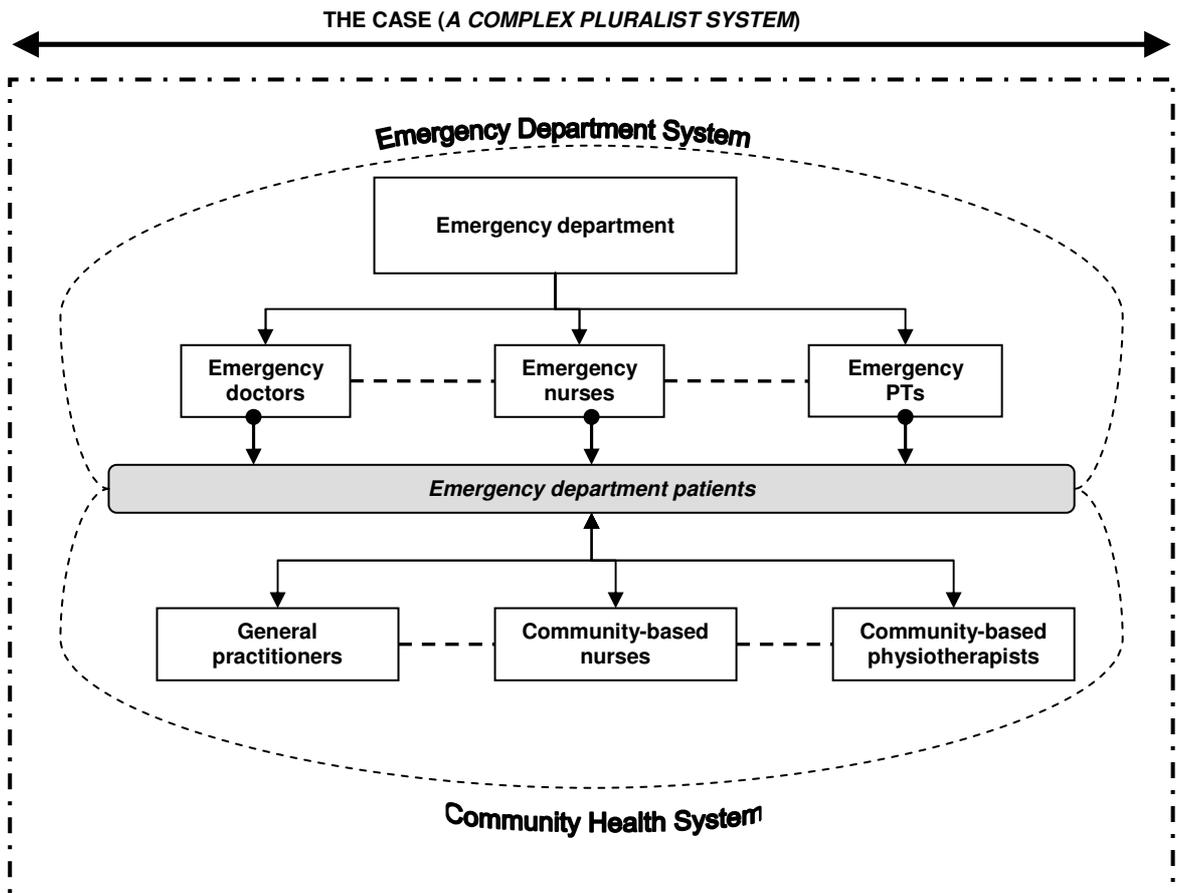


Figure 12: The ‘case’ as a bounded system.

3.4.3 Conclusion

In summary, comparative case study research techniques are sympathetic with systems theory ideologies. Each case is recognised as a bounded system of working parts but is confined to only the human elements of the emergency departments (the specific stakeholders). Case study research encouraged the application of qualitative data techniques and inductive analysis, while also allowing concurrent demonstration of the virtues of systems theory and interpretivism. This methodology, as one of the first known applications in health research, provides an innovative link between systems theory and interpretivist approaches (Anaf et al., 2007).

Chapter 3 has presented an overall theoretical analysis and debate using interpretivist, systems theory and case study literature. The specific conduct of the three data collection and analysis phases is outlined in Chapter 4.

4 Research Methods

4.1 Introduction

This chapter presents the research methods used to gather and analyse the stakeholder perceptions of ED physiotherapy. Perceptions were explored using varied data collection methods to enhance research trustworthiness and provide a rounded investigation. Each stakeholder group was explored individually, beginning with the patients, then the community health professionals and concluding with the emergency department staff. Responses and themes contributed to each further stage of the stakeholder investigations. An iterative approach to data collection and analysis culminated in thick, rich descriptions of ED physiotherapy within the comparative case study framework.

Guiding the data collection were the two core research aims and the main objective, as described in section 2.5.5:

1. To identify stakeholder expectations and interpretations of physiotherapy's role in the emergency department, by exploring:

- How do different stakeholders describe the role of physiotherapy in the emergency department?
- What do these stakeholders expect the position to provide in the context of their environment?

And

2. To consider stakeholder perceptions of how physiotherapy contributes to the emergency department system by exploring:

- How do the stakeholders believe physiotherapy will contribute to the effectiveness and efficiency of the emergency department?
- What networks and partnerships are the most effective or important to establish?
- What are the potential implications for strengthening ties with external primary care providers?

The main objective was to:

- **Develop and present conceptual models of physiotherapy's integration into the emergency department system.**

The research aims offered in-depth exploration of consumers' and workers' reflections of

what ED physiotherapy is and what it can offer, and enabled exploration of the interface between emergency system (staff and patients) and community sector perceptions. Table 9 provides an overview of data management, illustrating how data sources and analytic processes led to the fulfilment of the research aims and main objective.

Table 9: Data management table

| Data Type | Data Source | Analysis | Research Aim |
|---|--|---|---|
| ED system observations | <ul style="list-style-type: none"> • Observational field notes • Field journal | <ul style="list-style-type: none"> • Manual content analysis | <ul style="list-style-type: none"> • Correlates with <ul style="list-style-type: none"> - Aim 2.2 - Aim 2.3 - Objective |
| ED patient perceptions | <ul style="list-style-type: none"> • Survey incorporating descriptive statistics and open-ended questions • Melbourne versus Townsville cases | <ul style="list-style-type: none"> • NVivo version 7.0 • Excel spreadsheet of descriptive statistical analysis • Manual coding and thematic analysis | <ul style="list-style-type: none"> • Correlates with <ul style="list-style-type: none"> - Aim 1.1 - Aim 1.2 - Aim 2.1 - Objective |
| Community health professional perceptions | <ul style="list-style-type: none"> • Qualitative questionnaire incorporating open-ended questions • GPs (Melbourne & Townsville) • Nurses (Melbourne & Townsville) • Physiotherapists (Melbourne & Townsville) | <ul style="list-style-type: none"> • NVivo version 7.0 • Manual coding and thematic analysis | <ul style="list-style-type: none"> • Correlates with <ul style="list-style-type: none"> - Aim 1.1 - Aim 1.2 - Aim 2.1 - Aim 2.2 - Aim 2.3 - Objective |
| ED staff perceptions | <ul style="list-style-type: none"> • In-depth 1:1 interviews using semi-structured techniques • Retrospective field notes • ED doctors (n=4) • ED nurses (n=4) • [ED] PT (n=4) • Melbourne versus Townsville | <ul style="list-style-type: none"> • NVivo version 7.0 • Manual coding and thematic analysis • Second coding of major themes | <ul style="list-style-type: none"> • Correlates with <ul style="list-style-type: none"> - Aim 1.1 - Aim 1.2 - Aim 2.1 - Aim 2.2 - Aim 2.3 - Objective |

(Adapted from O'Meara, 2002, p.78)

An innovative heuristic model – a combined case study-systems theory approach (Chapter 3) – was applied to the data. The case study component contained the scope of research while the systems theory framework encouraged participant diversity and facilitated development of conceptual ED physiotherapy models that compared and contrasted participants' findings

as a 'whole'. Proposed conceptual models were developed from the combined responses of emergency and community doctors; emergency and community nurses; emergency, hospital-based and community physiotherapists; and the patients as a collective group (Chapter 9). Exploring so many perspectives generated a large sample size (N=127) and led to an extremely comprehensive reporting of findings.

The research was bounded by the principles of trustworthiness (rigour). Data collection and analysis adopted approaches to enhance credibility, dependability, confirmability and transferability. Strategies included using varied data sources (observations, qualitative surveys, qualitative questionnaires and interviews), obtaining a second coder's opinion for themes, establishing an auditable research trail and applying a purposive approach to sampling.

4.2 Statement of ethics

All human interaction, including the interaction involved in human research, has ethical dimensions. However, 'ethical conduct' is more than simply doing the right thing. It involves acting in the right spirit, out of an abiding respect and concern for one's fellow creatures ... an ethos that should permeate the way those engaged in human research approach all that they do in their research (*National Statement on Ethical Conduct in Human Research*, 2007, p.3).

The study was granted ethics approval by James Cook University Human Research Ethics Committee (approval number H2396), The Townsville Health Service District Human Research Ethics Committee (approval number 41/06) and the Austin Health Human Research Ethics Committee (approval number H2007/02737) prior to undertaking data collection. Additionally, the study was granted ethics approval from the Cairns Base Hospital Ethics Committee (approval number 67.01#447) for the purpose of independently piloting the emergency patient stakeholder group survey (Appendix A).

Participants were given information about the research, their role in the study and their rights as a participant through written information sheets, consent forms and, where possible, verbal descriptions and explanations. Those who agreed to participate acknowledged that their consent was informed and voluntary, not as a result of misinformation or researcher coercion.

While different information sheets and consent forms were developed for the different stakeholder groups, consistent features included describing the nature of the study, identifying the research team, outlining participants' roles in the study, explaining the intended use and dissemination of the data, and providing an independent contact (affiliated

with the Human Research Ethics Committees) with whom to further discuss ethical issues related to the research (Appendix C).

Participants had the opportunity to ask questions and seek clarification about the project from the researcher at any point during the data collection process. The rigour applied to ethics procedures in this study was validated by strong participation rates amongst the stakeholder groups. Participants were aware that the names of the 'cases' (a reference to The Townsville Hospital and the Austin Hospital emergency departments) would be used, but their individual details would not be exposed from an ethical duty to preserve anonymity.

4.3 Challenges of site selection

There is a natural resistance of individuals and organisations to being investigated; many issues addressed are politically sensitive; and there are difficulties in obtaining accurate and meaningful data under research conditions usually short of ideal. The evaluator has done well if the report is seen as useful for decision making, is accepted as accurate, and is regarded as a stimulating commentary (Parlett, 1981 in Walker & Dewar, 2000, p.220).

A lengthy negotiation process occurred with various hospitals until the two cases were chosen. Initially, the research was designed to take a purely regional Australian focus, developing a comparative case study between two regional sites. Recruiting major regional hospitals proved to be challenging. A Head of Physiotherapy at an otherwise ideal regional site refused to allow members of her department to divulge details of how their ED physiotherapy service operated. This decision quashed a viable, accurate comparison with the already-recruited Townsville Health Service.

Unable to extract a valid explanation as to why the ED physiotherapy service was being obscured by this particular Head of Physiotherapy, the experience proved to be disappointing and at times confronting, but also motivating. Possible motives for not wanting to share information about the ED physiotherapy service ranged from the pragmatic:

- The department was hesitant to be involved in any research that might have required assistance and effort on their part;
- The department was involved in its own research process which may be jeopardised by external doctoral research;

to more complex dilemmas and issues of working in the public health system, for example:

- Exposure about the way the ED physiotherapy system operates, either positively or negatively, may compromise funding and resources obtained by the physiotherapy department;

- There is the possibility that the ED physiotherapy service is not running effectively, or conversely too effectively, discussion of which may compromise the recruitment of more physiotherapy staff.

The experience of recruiting hospitals to the research proved retrospectively useful. It inspired some politically-based questions for the in-depth interviews conducted with staff to further explore the socio-political context of ED physiotherapy and its place in the emergency system. It also suggested that the two sites eventually recruited – The Townsville Hospital and the Austin Hospital – were transparent about the way that their emergency systems functioned, and were comfortable having a researcher independent to both hospitals probing their operations.

The final selection of cases changed the research focus to a *metropolitan-regional* comparison. It was a valuable research direction because despite geographical and demographic differences, the two sites had a number of similarities ranging from approximate department size, patient attendance numbers, status as tertiary referral centres and a commitment to implementing innovative strategies to combat service delivery problems such as access block. The strength of the research now lay in the ability to provide a truly comparative case study design.

Travelling to each research site several times over the course of the study enabled development of a professional network with the staff and patients in the emergency departments. Given the research's origins in interpretivism, gaining a sense of the systems and people's roles within them proved invaluable in being able to lead interviews, develop survey themes and question when the systems did not operate optimally. Knowing how both sites operated at all points of the data collection process gave the researcher confidence to challenge ideas and preconceptions of the system with the participants along the way.

4.4 Observation of cases

4.4.1 Theoretical justification

Observational methods are highly relevant when researchers seek to work in a naturalistic milieu (Mays & Pope, 1995a). It was appropriate to gain insight into how the cases, or systems, worked from the researcher's perspective prior to collecting data from the participants. While observational methods have been a cornerstone of health research for decades, a recent editorial by Morse lamented the lack of articulation about observational methods in qualitative studies (Morse, 2002). She described a 'preponderance' of interview data in recent qualitative investigations, the result of which was thorough narrative

evaluation (from the participant perspective) that was not sensitive to the fact that many participants lack self-awareness about their situation. Thus, observational techniques complemented interviews and other qualitative strategies because they delivered a perspective of others that might support or refute the interpretivist perspective (Morse, 2003).

Observational methods were a logical contribution to the data collection process, given the role of systems theory in the research (Wells, 1995). Observing the two cases informed an understanding of the rules that govern the system; from as broad as policies and procedures within the emergency departments to as narrow as inter-disciplinary communication and hierarchies (Murphy, Dingwall, Greatbatch, Parker, & Watson, 1998). Complementing qualitative interview theory, for example, such system rules can correlate with the research's 'cultural arena' – how the medical and emergency culture governs the way the department operates (Rubin & Rubin, 1995). Entering the field sought to provide further insight into how organisations were structured, as this varied between cases. Being immersed in the cases allowed the researcher to become sensitive to the meaning of situations and relationships (Murphy et al., 1998). Observational periods balanced participants' opinions with their genuine interaction in the emergency setting – a form of 'response-verification', capturing etic data to support or confirm the otherwise emic data sources (Dreher, 1994; Mays & Pope, 1995a).

The stigma that observational techniques can be 'unsystematic' (Mays & Pope, 1995a) was addressed by ensuring that all observations were systematically documented in a field journal which acted as a repository of information (Murphy et al., 1998; Wells, 1995). Preserving an unstructured technique was also appropriate, as this was considered the most complementary observational approach to the interpretivist perspective (Mulhall, 2003). An unstructured approach to observational research does not imply an unsystematic approach to data collection, but rather that the researcher does not have any strong, predetermined ideas of how the system might run, or what might be observed prior to entering the field (Mulhall, 2003). Thus, the researcher approached each department with a broad focus and, on a systems theory level, began by observing the 'big picture' of the setting to capture the context of relationships and operational processes, as well as the role of the physical environment (see Figure 7) (Mulhall, 2003; Wells, 1995).

4.4.2 Procedure

Observations were recorded over several phases in the research. The first period of observation occurred over an intensive two days at each hospital, from 8am to 5pm, in

accordance with general physiotherapy work hours and as guided by previous research into ED physiotherapy (Anaf & Sheppard, 2007a). The Heads of the emergency departments at both hospitals were aware of the researcher's presence, and advised their staff on an 'as-asked' basis that an independent researcher was looking at how the emergency system worked. As this was not pure covert observation, questions were anticipated about the researcher's role, and it became clear that when staff and patients understood they were not individually targeted they were happy to resume their normal duties.

Observations were done as discreetly as possible, often by sitting or standing in a corner or behind a nurses' station to make notes, or casually walking through the department to gain a 'feel' for what was happening. Notes were recorded in a structured way, consistent with previous SSM research by Wells (1995), so that future analysis could help identify specific events and relationships. Figure 13 illustrates the documentation process.

| | Events | | System |
|------------|---|---------------------------|---|
| 8:30a m | Pathology services come down from the ward to ED to take blood from patients in the main ward | Blood nurses x2, patients | There seems to be a dependence on ward staff to do quite simple ward tests and care - the nurses look like they know their way around the ED - very focussed and not talking to any ED staff - <u>boundary permeability</u> |
| 8:35a m | ED doctor gives woman with # right LL referral to see physio in the Outpatient Dept. | Doctor, patient, nurse | There seems to be a paper referral system in place for physio - very much at doctor's discretion - |

Figure 13: Example of field journal documentation

Recording the observations in a structured way helped the researcher reflect on what happened in the setting, to whom, and if there were any more thoughts or feelings about events and how they linked back to a broader 'system' frame of reference. The system's

ebbs and flows over the course of the day were also captured, such as staff changes, patient numbers and types of clinical conditions.

Following the two-day intensive episode at each hospital, additional contributions to the field journal were systematically recorded throughout the periods of patient and emergency department staff data collection. These entries varied from documenting the emergency departments' routines to much more narrative, personal descriptions about how participants reacted to interview questions, or how well the patient surveys were tolerated. Discreetly noting the participants' apparent emotional responses to the data collection process offered further insight into whether they understood what ED physiotherapy was about, and how comfortable they were with the research process.

The final task was to draw and re-draw representative images of how the emergency system worked at each hospital. Particular highlights were the key relationships between different groups; when the emergency department had its boundaries penetrated by external factors (such as non-emergency staff or media for example); and what the different professional roles were in the system. An example of a conceptual drawing of an emergency system is provided below in Figure 14.

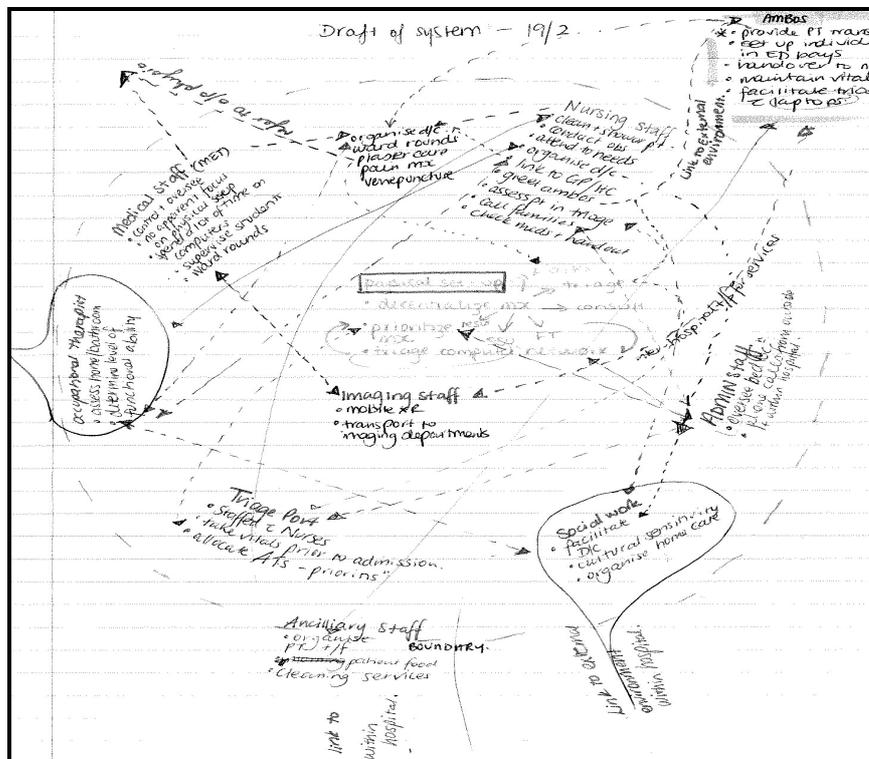


Figure 14: Conceptual drawing of an emergency department

The researcher summarised observations into a synopsis of case observations and system reflections, analysed further literature to provide context to what she had witnessed and drew

maps of the emergency department layout to provide a constant conceptual reminder of the environment when reflecting on the observations at a later stage (see Chapter 5).

4.5 Purposive sampling

4.5.1 Theoretical framework

The theoretical framework governing the sampling of stakeholder groups was uniform. Purposive sampling strategies were integrated into all participant recruitment. Purposive sampling is a very common qualitative strategy (Marshall, 1996) intended to extract detailed, holistic interpretations of what is being studied (Pope, van Royen, & Baker, 2002). Groups of participants are chosen because of their usefulness to the research's aims; thus purposive sampling is not randomised, nor does it seek to actively generalise findings on a grand scale like probability sampling (Barbour & Barbour, 2003).

Curtis, Gesler, Smith and Washburn (2000), and Miles and Huberman (1994) outlined six key considerations when determining qualitative sampling strategies for research. Purposive sampling of stakeholders was justified on the following premises:

1. The sampling strategy should be relevant to the conceptual framework and the research questions addressed by the research;
2. The sample should be likely to generate rich information on the type of phenomena which need to be studied;
3. The sample should enhance the [analytic] 'generalisability' of the findings;
4. The sample should produce believable descriptions/explanations (in the sense of being true to life);
5. The sample strategy should be ethical;
6. The sampling plan should be feasible in terms of accessibility, resourcing and the researcher's work style (Curtis et al., 2000; Miles & Huberman, 1994).

Stakeholder categories were predetermined by previous literature and the research aims, but even this proved open to change following data analysis. For example, in the initial proposal for this research, interviews were to be conducted with emergency department business managers at the two hospitals. However, after analysing the information provided by the patients and the community health professionals, the role of higher management seemed less resonant with their opinions and concerns than in other emergency department studies (see Gordon et al., 2008). Issues of funding and overall management crept into responses, but were secondary to other major thoughts. Continuing with the plan to interview business managers no longer 'fitted' with the themes generated on the ground.

Using the literature to guide the selection of stakeholder groups, limited to emergency patients (e.g. Anaf & Sheppard, 2007a; Kempson, 1996; McClellan et al., 2006), community health professionals (e.g. Forster, 2005; Moss et al., 2002) and emergency staff (Jibuike et al., 2003; Richardson et al., 2005), meant the research framework was restricted to the key human elements within the emergency system, as used previously by Dooris (2005). Purposive sampling complemented the systems framework by exploring the perceptions of groups whose views were meaningful to the system under investigation. Validation of this approach in health care was offered by Gerbert and colleagues. In their study into how doctors identify victims of domestic violence, the authors purposively recruited several physicians across three medical specialties because ‘ . . . [they were] the participants who [were] best suited to provide a full description of the research topic’ (Gerbert, Caspers, Bronstone, Moe, & Abercrombie, 1999, p. 579). Further, having several different specialties under analysis⁷ allowed derivation of common themes and patterns from different participant perspectives (e.g. interpretations from family physicians compared with emergency physicians) (Gerbert et al., 1999).

Purposive sampling not only guided the recruitment of participants, it helped to determine questions asked of stakeholders as new theory was generated. Emergent findings encouraged modifications to future interview schedules and research questions based on information derived from those involved in the study; a reflection of the richness of data drawn from appropriate participants (Bursnall, 2003). To reinforce this, an ‘inverted pyramid’ approach was taken to stakeholder inquiry (Figure 15). While it is true that each stakeholder’s perspective is valuable in its own way, it was logical to assume that those least removed from the emergency setting (the general public who have spontaneously become patients) had less insight into the deeper clinical and professional consequences of ED physiotherapy than those intimately connected to the emergency setting, such as the staff.

Using the example of the emergency department patients, where reduced depth of inquiry was obtained due to a lack of knowledge about ED physiotherapy, greater breadth of inquiry was sought through wide-reaching open questions about general emergency department topics. This process led to the development of additional questions to ask of community health professionals, based on the emergency patients’ responses. The process was applied once again for the emergency department staff, drawing on emergent patterns or conflicting ideas from the already analysed patients’ and community health professionals’ perspectives. The iterative approach to data collection and analysis was only possible from a targeted, purposive selection of the stakeholder groups from the outset.

⁷ This is similar to having multiple different stakeholder categories in this research.

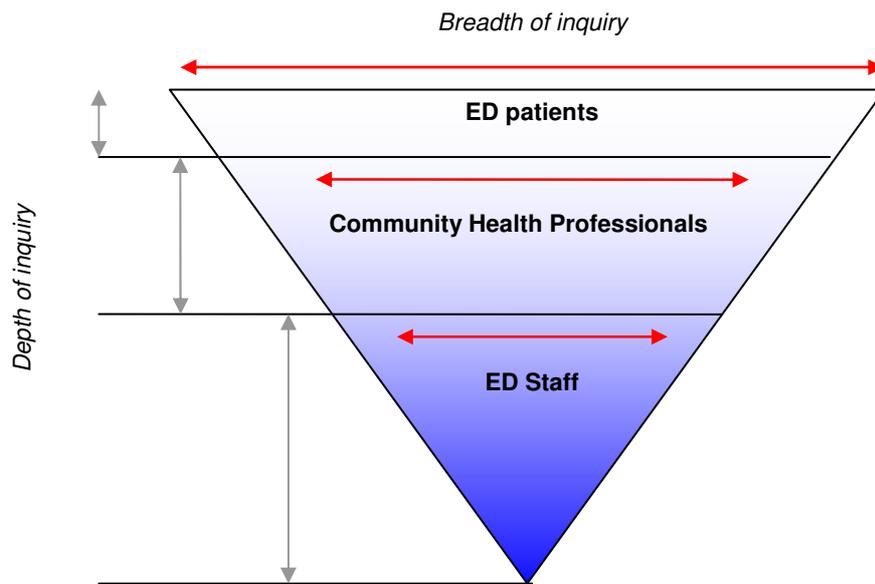


Figure 15: ‘Inverted pyramid’ approach to data collection

4.5.2 Theoretical saturation and sample size

Theoretical saturation determined participant numbers. The sample size was less important than how representative their responses were across the cases (Huberman & Miles, 2002). However, pragmatic limitations were always at the forefront of research planning. In particular, the Austin Hospital was located in Melbourne, 3000 kilometres from the researcher’s base. Data collection periods were always contained as it was not feasible or rigorous to spend weeks at a time at one case and not the other. Therefore, the experience of piloting patient data and its subsequent analysis was used to inform the emergency patient sample. The emergency department patient survey was independently administered and analysed prior to being distributed (section 4.7.1). When analysis of the pilot data from Cairns Base Hospital (N=20) was conducted it did not achieve complete saturation of themes, although there were many consistent patterns of ideas. On this basis, the researcher entered each emergency department prepared to survey and analyse twice as many patients (N=40 in each case), leading to an overall sample four times that of the pilot (N=80). Additional arrangements were made to return to each case if saturation of survey responses was not achieved, although data analysis later revealed this to be unnecessary. The final sample of emergency patients (N=80) saw theoretical saturation of data between the cases, meaning that new ideas became increasingly limited as more patients were surveyed (Rubin & Rubin, 1995).

The same theoretical sampling process was applied to the community health professional

participants but extraneous influences such as poor response rates and limited numbers of health professionals to investigate proved a barrier to saturation. Cycles of questionnaire mailing were conducted until the participant lists the researcher had generated were exhausted (section 4.8.2). However, Strauss and Corbin (1998) and Bursnall (2003) argue that under such circumstances of limited participants or difficult recruitment it is the *degree* to which data contributes to new ideas that is meaningful for research, rather than absolute saturation for the purpose of achieving a technicality. Huberman and Miles (2002) use the analogy of choosing to end the editing of a manuscript because future changes are likely to add little to its overall quality. This is a personal decision made by the researcher, and usually combines pragmatic considerations like time restrictions and resources available (Huberman & Miles, 2002). Despite varying levels of response to the community health professional questionnaire, the purposive sampling technique and guidance from saturation theory still yielded meaningful and consistent results, even if this was less evident than the theoretical saturation of emergency patient and staff responses.

Several theoretical and practical factors predetermined the sample of emergency department staff (N=12) across the cases. Firstly, the limited number of dedicated ED physiotherapists (N=2) available at the Austin Hospital was a major consideration in determining an initial sample size. The researcher was concerned that over-recruiting participants in other professional groups would disproportionately skew emerging themes and perceptions. Therefore, a baseline sample of N=2 was developed in each professional group in each case. In the event that themes lacked detail, a contingency plan was established to interview physiotherapists at the Austin Hospital who had at some point rotated through the emergency department. Recruitment of other health professionals across the cases would follow previous procedure, as there was a broad pool of clinicians to draw from in both cases. In retrospect, the depth of information from the interviews proved sufficiently robust that the contingency plan was not required, helped mainly by the fact that emergency department staff data were assessed as a collective group in each case, rather than breaking them down into sub-categories and conducting microanalyses between individuals.

Secondly, justification for the sample size used in this study was further provided by a study conducted by Guest, Bunce and Johnson (2006), which drew on data obtained from 60 in-depth interviews with West African women in a bid to ascertain the degree of data saturation over the thematic analytic process. Guest et al. determined that theoretical saturation occurred by the twelfth interview, achieving 88% of the number of codes identified from all interviews (Guest et al., 2006). The authors used their findings to make some of the first evidence-based recommendations for non-probabilistic sample size in qualitative research

using the interview technique (Guest et al., 2006).

Finally, in her doctoral research exploring perceptions of siblings of children with acquired brain injury, Bursnall (2003) draws on theory proposed by Miles and Huberman that in some research situations theoretical saturation is an impractical aim because deeper immersion in a case invariably highlights more 'layers' and features to discuss, and the researcher must decide when to cease investigation. Thus, theoretical precursors to this research confirm that the proposed initial sample of N=12 was consistent with an evidence-based approach to non-probabilistic sampling in qualitative research.

In summary, adopting a purposive sampling approach to the research not only assisted the targeted recruitment of participants, it also facilitated an iterative approach to data collection. Rich themes extracted from the participants were underpinned by their appropriateness to the system under investigation (Anaf et al., 2007), and active links between the stakeholder results were made through the development of conceptual models of ED physiotherapy practice.

4.6 Emergency department patients

4.6.1 Survey development

Patients attending the emergency departments of The Townsville Hospital and the Austin Hospital were the first key stakeholder group for this research. To get a wide opinion of the emergency patients' interpretations of physiotherapy in the emergency department, a qualitatively-inspired survey was developed. Core topics explored included:

- Their understanding of what an emergency department provides;
- Perspectives on what ED physiotherapy is designed to offer; and
- Describing their expectations of how ED physiotherapy will contribute to the running of the emergency department (Appendix C).

Survey development was based on previous qualitative-inspired surveys conducted in ambulance systems research using SSM (O'Meara, 2002), and Sandelowski and Barroso's 'Typology of Qualitative Findings' (Figure 16) (Sandelowski & Barroso, 2003a, p. 908). Figure 16 acted as a simple guide to the wording of questions so that the survey did not degenerate into a simplistic quantitative design with reduced potential for qualitative interpretation. It had been used previously as a way of classifying qualitative literature in a review conducted into patient satisfaction in emergency departments (Gordon et al., 2008). The aim was to keep data reminiscent of a thematic survey rather than a topical, quantitative survey (Gordon et al., 2008; Sandelowski & Barroso, 2003b).

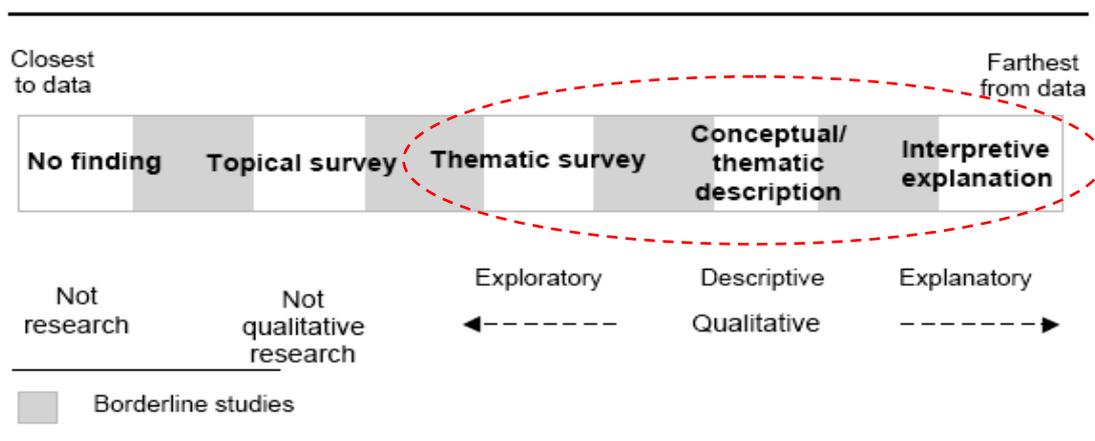


Figure 16: Typology of qualitative findings (Sandelowski and Barroso, 2003, p.908)

The survey contained thirteen questions laid out on a single page (Appendix C). Descriptive statistics such as age, gender, occupation and number of times the participant attended an emergency department were gathered to contextualise other detailed narrative responses. For example, if a patient had attended an emergency department more than a dozen times in a five year period, it is more likely his or her survey descriptions would be shaped by greater familiarity with the department’s staff and procedures than those of someone who had only visited the department once previously.

The survey was piloted at an independent hospital to determine the tool’s credibility and trustworthiness (Mays & Pope, 1995a). The researcher travelled to the Physiotherapy Department of Cairns Base Hospital, in Far North Queensland, and administered the survey to patients attending the outpatient clinic. Twenty patients (N=20) conveniently recruited from the department completed the survey as a form of face-to-face testing. The participants had their responses timed to ensure that it was brief and user-friendly. Subsequent modification to the survey was made based on participants’ feedback about wording, relevance of questions and length of time to answer them. The researcher was satisfied that after several days of piloting the survey the refined version was easy to understand and yielded meaningful responses relevant to the research aims. The pilot surveys were independently analysed prior to formal data collection to ensure that useful qualitative data could be extracted in spite of its brevity (see section 4.9.1). The survey took approximately 10 minutes to administer.

4.6.2 Recruitment of participants and data collection protocol

Identical recruitment-of-patient strategies were applied to the emergency departments of the Austin Hospital and The Townsville Hospital. The researcher arrived at the emergency department at 8am at the recommendation of the department Head. Morning handover of

patients to the new staff on shift had occurred, and most patients had woken and eaten breakfast. Each day the researcher was stationed at an emergency department computer containing medTRAK software, which displayed the layout of the beds and the admission details of each patient in the department. This was useful to avoid interrupting the cubicles of critically ill patients and their families, distressed patients or children. Selection of participants to complete the qualitative patient survey was based on the following exclusion criteria:

- i. Patients were excluded from research if they were under 18 years of age, in accordance with ethical requirements;
- ii. Patients were excluded from the study if they had a current Australasian Triage Category rating of 1 (resuscitation) or 2 (emergency), given the severity of illness;
- iii. Patients were further excluded if they had admission to emergency based on acute mental health, alcohol or drug-related disorders likely to impair their judgement and ability to offer informed consent;
- iv. Patients who were unable to communicate in English were excluded for their inability to give informed consent.

No additional inclusion criteria were applied to the patients as maximum variability within the population was sought to gain a broad, representative perspective.

Patton (2002) and Bursnall (2003) described the importance of establishing researcher credibility to conduct studies as it assures participants that the person leading the study has experience and necessary qualifications to enhance research rigour. The researcher personally approached participants who met the aforementioned criteria at their bedside, identifying herself as a visiting researcher. As a physiotherapist, the researcher had experience in hospital bedside manner and communicating with patients in an informal, genial manner, and felt confident approaching every appropriate patient. The researcher also had prior experience researching patients in an emergency department setting and was familiar with the challenges of the naturalistic environment (Anaf, 2005; Anaf & Sheppard, 2007a), namely the unpredictable, noisy atmosphere and the fact that it was not typically a place of comfort for most people. Thus, every effort was made to keep the recruitment straightforward, efficient and agreeable for the patients.

A very brief verbal description of the study was given, and the patient was asked if he or she was willing to learn more and be involved. If interested, the patient was provided a written information sheet and the researcher verbally summarised the aims of, and reasons for, the research. Consent for participation was sought at this point. Patients were given a written consent form and were talked through the research requirements. After consenting, the participant was given a clipboard and pen, and instructed to complete the survey in their

private cubicle at their own pace and in as much written detail as possible. Participants were assured that correct spelling was not required. The researcher returned to the nurses' station, but was available to clarify any questions any participant had about the survey. Upon patient completion of the survey, the researcher placed all forms into a secure envelope which remained there for the duration of the data collection period.

4.7 Community health professionals

4.7.1 Qualitative questionnaire development

The second key stakeholder group were members of community health professions, specifically GPs, community-based nurses and community-based physiotherapists. Exploring community-based health professionals' perspectives was essential in meeting all aims of the research, but in particular finding out:

- What networks and partnerships are perceived to be the most effective or important to establish?
- What are the potential implications for strengthening ties with external primary care providers?

A qualitatively-designed questionnaire was used to gather information from participants. This was founded on the same theoretical principles used in the development of the emergency department patient survey, namely that the questionnaire facilitated in-depth narrative responses consistent with the 'Typology of Qualitative Findings' (Figure 16) (Sandelowski & Barroso, 2003a). This was an unorthodox use of the typology as it is normally applied to published qualitative literature. However, as with the patient survey, the pilot process gave a good indication of the level of data that could be gathered in the confines of the time taken for the appropriate participant cohort to complete the questionnaire.

The questionnaire contained 18 open and closed questions clustered under 13 headings. Greater detail was sought about the emergency department's efficiency and effectiveness, and the influence this had on the community sector. Given the dearth of previous ED physiotherapy research, especially incorporating the relationship to the community sector, no previous content-specific research was useful for informing the questions. Rather, it was broader emergency department literature and policy articles investigating the state of health systems, such as the Queensland Health System Review and Queensland Public Hospitals Commission of Inquiry, which guided question development. An expert panel of health professionals recruited from the James Cook University School of Rehabilitation Sciences

was convened to assess the questionnaire to ensure its credibility and trustworthiness, especially that the content was meaningful to potential participants. Four health professionals, all with health service research and qualitative methods knowledge, formed a roundtable with the researcher to analyse the initial draft questionnaire's wording and meaning. No one in the panel of experts had any involvement or vested interest in the research, enhancing objectivity and honesty of responses. Substantial revisions were made until the roundtable reached consensus that the questionnaire was relevant to the research aims, could be understood by a variety of health professions and had the potential to gather detailed qualitative information. The final questionnaire (Appendix D) was judged to take approximately 20 minutes of participants' time if completed in full.

4.7.2 Recruitment of participants and data collection protocol

Participants were sourced from many community health agencies around Townsville and Melbourne in the vicinity of each emergency department. Some agencies, such as community nursing and physiotherapy facilities, were run by the state government health sector, and others were private enterprise such as GP clinics and private physiotherapy practices. Mixtures of public and private facilities were necessary for a robust sample. Where possible, participants were recruited in the area local to the emergency department (e.g. within 10 kilometres), so that written responses would better reflect the emergency departments under investigation.

A telephone and internet search of local community nurses, physiotherapists and general practitioners was conducted. Lists of health professionals were generated for each region. The only exclusion criterion technically applied to the community health professionals were those under 18 years of age, which, in reality, was not an issue. All people in the three professional categories, regardless of clinical stream or focus, were eligible for participation. For example, eventual respondents from community nursing included those who specialised in respiratory care, aged care and diabetes management, providing a broad and varied skill base.

An A4 package was sent to each practice or facility manager. The packages contained a covering letter, correct numbers of information sheets, consent forms and questionnaires, and reply-paid envelopes. Staff were given a time limit (3 weeks) in which to return completed questionnaires. They were advised that any questionnaires received after these times were welcome; otherwise the researcher assumed they did not wish to participate. The cycle of posting packages repeated until the researcher had exhausted her list of local community health professionals. The only deviation from this process occurred with the

Townsville community health nurses, who were all employed by Queensland Health. After receiving information about the research, the manager requested a small presentation to community nursing staff. A meeting time was scheduled and the research was outlined in a 15 minute presentation. Information sheets, questionnaires and consent forms were distributed during the meeting and willing participants posted the questionnaires back to the researcher in the reply-paid envelope at a later stage. This minimised any feeling of coercion to complete the questionnaire.

4.8 Emergency department staff

4.8.1 Interview theory

The final stakeholder group were members of the emergency department staff in both cases. Consistent with the stakeholders explored in the community sector, these comprised emergency doctors, emergency nurses and physiotherapists. To balance the ‘inverted pyramid’ approach to data collection, in-depth interviews with staff investigated the deeper social, political and clinical ramifications of introducing physiotherapy to the emergency department system. Conducting interviews complemented the theoretical research framework, obtaining an interpretivist perspective about how the different health professions describe ED physiotherapy (Patton, 2002). Interviews encouraged participants to reflect on their lived and clinical world, and offered profound insight into professional practice and how roles change when the ‘system’ evolves (Anaf et al., 2007; Murphy et al., 1998). Qualitative interview strategies also explored shared meanings of participants in groups, essential for providing viable case comparisons (Rubin & Rubin, 1995).

An interesting theme in interview theory was the role of the ‘cultural arena’. Rubin and Rubin (1995) described this as the cultural context of the people and place under investigation. Case study research and systems theory shaped a version of a cultural arena for this research by focussing on those people related to ED physiotherapy and how it affected their roles in the setting’s pervasive medical culture (Anaf et al., 2007; Germov, 2002). The researcher needed to carefully negotiate entry into the ‘culture’. For example, understanding doctors’ medical terminology could have been a barrier to a flowing interview, but as a practicing physiotherapist the researcher had an excellent understanding of the language used in the setting, so this did not act as a cultural barrier. After all, ‘sharing a language is a powerful way of crossing the boundary between insiders and outsiders’ (Rubin & Rubin, 1995, p.173). Rubin and Rubin (1995, p. 66) advocate that all potential participants fit three specific criteria:

- i. Having knowledge of the cultural arena or the situation under investigation;

- ii. Interest in discussing the topic; and
- iii. Recruiting participants to have a range of perspectives within the setting under investigation.

By exploring more than one individual in each profession, and across more than one case, a variety of personal responses was achieved. Also, as active members of the sites under investigation, these participants had special insight into the system dynamics and different roles within the emergency setting.

A flexible, semi-structured interview schedule was most appropriate for the emergency staff (Rubin & Rubin, 1995). Fundamental lines of inquiry were pursued with each participant but spontaneous, conversational wording of questions encouraged a free-flowing, adaptable dialogue (Appleton, 1995; Patton, 2002). Benefits included the ability to make best use of the limited time with each individual, and encourage a more systematic and consistent discussion, as many individual interviews were conducted (Patton, 2002; Rubin & Rubin, 1995). Certain questioning techniques formed part of the flexible interview guide. A combination of direct and presupposition structures⁸ lightened or focussed the atmosphere during the interview (Patton, 2002). The researcher used prefatory statements⁹ as a natural technique because it helped reinforce the interviews' context and content. Summarising transition statements¹⁰ were a complementary strategy used to show the researcher was actively listening and engaging in the discussion (Appleton, 1995; Patton, 2002).

A final consideration was the role of naïve preconceptions in shaping the interview schedule. The researcher had the dual challenge of trying to understand the different professional perspectives while considering her personal views about the topic (Rubin & Rubin, 1995). For example, from prior experience researching ED physiotherapy, the researcher anticipated that all doctors would be categorically opposed to physiotherapy advancing its scope of practice. But, as data analysis would show, this was not the case, proving it to be a naïve assumption on the researcher's part. The interview schedule had to remain consistent, regardless of the person being investigated, so questions were not 'softened' or avoided out of fear of antagonising people – their lived experiences moved along a spectrum of optimism and pessimism about the topic of ED physiotherapy.

The researcher had to make a special effort to understand the reasoning behind all

⁸ A fluctuating style of asking questions ranging from pointed "what is the role of . . ." to presuppositions like "I'm interested in how nursing differs from physiotherapy on this point . . ." i.e. assuming that nursing differs from physiotherapy and that it is of interest to the research.

⁹ Prefatory statements include, "one of the key areas being explored . . ."

¹⁰ Summarising transition statements summarise back to the interviewee what was just discussed, to clarify meaning.

participants' responses (Rubin & Rubin, 1995). While there was a natural advantage in understanding the stance of physiotherapists, as a clinician herself, the unifying theme across the professions was 'emergency practice', which helped the researcher understand different professions' descriptions, and support for, or fear of, using ED physiotherapy. For example, rather than defending physiotherapy's right to extend clinical privileges, the researcher genuinely empathised with one doctor who was clearly frustrated about other professions having MRI rights which had taken him 12 years of study to obtain, as the researcher too had been studying for nearly a decade. The researcher went into each interview with as much neutrality and open-mindedness as was realistic (Morse, 1994), given that naïve preconceptions were an unavoidable part of every interpretivist perspective.

4.8.2 Recruitment of participants

Ethical procedures necessitated that recruitment of emergency staff be assisted by the Heads of Emergency¹¹ in both cases. An email was sent to the two Heads of the emergency departments outlining the research aims and the required number of participants. Attached to the email was a copy of the information sheet. In both cases, the Head of the emergency department forwarded the information to the emergency staff and placed a print-out in the rosters book. Two exclusion criteria were discussed with the Heads of department:

- i. Students of the three disciplines on rotation through the emergency department; and
- ii. New graduate clinicians in the three disciplines working in the emergency department, given their relative lack of experience in emergency settings and the in-depth nature of systems and processes needing to be explored through the research.

There was only one specific inclusion criterion, which was that the physiotherapists recruited at the Austin Hospital must be dedicated ED physiotherapists. In the event of too many people offering to be involved in the research, participants would be recruited on a 'first-in' basis.

Staff members contacted the researcher by email or telephone to express their interest in being interviewed. Further details about the nature of the study and expected length of interview time were discussed at this point. Individual appointments were organised and reminder emails or phone calls were made one week prior to the meeting. This was essential given the interstate travel necessary to interview Austin Hospital-based clinicians. A quiet place to conduct the interview was organised and staff were advised that consent forms would be provided to them at the beginning of the appointment.

¹¹ In Townsville, given that the physiotherapists do not come under the jurisdiction of the emergency department, recruitment was additionally supported by the acting Head of Physiotherapy.

4.8.3 Interview protocol

Twelve participants across the cases were recruited to the study (doctors N=4; nurses N=4; physiotherapists N=4). The researcher developed a schedule of appointments to coordinate times across the cases. All interviews at The Townsville Hospital were conducted first because the researcher then had to travel interstate to interview Austin Hospital participants. Each participant decided where in the hospital they would like to conduct the interview. Most selected a private meeting room or contained office space, both having conference chairs and desks, so the immediate atmosphere created was one of calm, quiet, semi-formality. Participants were thanked for their time from the outset and given an information sheet and consent form, which the researcher talked them through. Interviews were audio-taped to permit transcription, only went as long as participants chose and participants were advised not to be distracted if additional notes were taken. Once consent was signed, the researcher set up the audio-taping equipment and began proceedings.

Every interview began in the same way, allowing the participant to become the central focus by having him or her describe their professional position in emergency. This was a topic of comfort and interest to everyone interviewed.

***Interviewer:** I thought a nice way to lead into this interview was to have you tell me what your role is here in emergency.*

Other questions included asking about their length of time in the role, the most challenging aspect about the position and what was special about their contribution to the emergency department. All participants guided the interview direction based on seven core themes the researcher had developed, based on patient and community health professional responses as a way of 'plugging' thematic gaps and elaborating further on pertinent issues (Appendix E). These themes were:

- 1) Roles and responsibilities in the emergency department system.
- 2) Understanding of the emergency department system:
 - i. Pressures and challenges faced;
 - ii. Theoretical and actual operational processes;
 - iii. Potential improvements to the emergency department system;
 - iv. Contribution of the system to the wider environment.
- 3) Interpretation of ED physiotherapy:
 - i. Roles and responsibilities;
 - ii. Shared goals and tasks;
 - iii. Skills and attributes in the emergency setting.
- 4) Emergency department physiotherapy contribution to service delivery:

- i. Impact on service delivery problems identified;
 - ii. Contribution to improving/ hindering the emergency system;
 - iii. Ideal use of physiotherapy in the emergency setting.
- 5) Collaboration in the emergency department:
 - i. Dominant relationships in the emergency department;
 - ii. Changing relationships with physiotherapy's presence;
 - iii. Affiliations and partnerships with ED physiotherapy.
- 6) Implications for primary and community care:
 - i. Emergency department physiotherapy's relationship to external care providers;
 - ii. Community health professions' influence on the emergency system;
 - iii. Recommendations for ED physiotherapy's role in the community sector.
- 7) Reflection on patient and community health data.

Many participants dictated sub-themes as part of the semi-structured process (Murphy et al., 1998). These were not raised in a structured order and acted only as a guide for the researcher.

Open-ended questions formed the majority of the researcher's communication (Patton, 2002), allowing participants to react to features of the question that were meaningful to them rather than the researcher (Appleton, 1995; Gerbert et al., 1999). A positive rapport was sustained with everyone interviewed, and all interviews had periods of laughter or casual chats about the research or other topics of interest. Interviews ranged from 20 minutes to an hour, with the physiotherapists the most discursive and the nurses usually the most concise. Questions tended to fall into the framework of 'opinions and values', 'experience and behaviour', and 'feeling' questions, as described by Patton (2002), to get to the heart of meaning. For example:

Interviewer: *I'm interested to know your thoughts about what the patients have said on a few areas . . .*

Interviewer: *How do you balance the needs and wants of the patients with the practicalities of running an emergency department?*

Interviewer: *How do you feel about . . .*

The researcher discussed with participants the process of member checking, whereby transcriptions of the interview were sent to them to check for meaning and clarity, and they could change or add anything to the conversation. After each interview the researcher documented additional comments and feelings about participants. Note-taking reinforced the mood of the interview that could not be captured during audio-taping, such as defensive or

enthusiastic body language (Briggs, Askham, Norman, & Redfern, 2003). This reduced potential bias of information because memory recall occurred close to the events (Bursnall, 2003). Audio tapes were sent to a professional typing service which provided transcripts. All interviews were typed verbatim and provided in electronic format for uploading into NVivo version 7.0 (Halcomb & Davidson, 2006).

4.9 Data analysis

4.9.1 Thematic Analytic theory

Thematic analysis affords direct representation of an individual's own point of view and descriptions of experiences, beliefs, and perceptions (Butcher, Holkup, Park, & Maas, 2001, p.474).

Using thematic data analysis, the researcher explored stakeholder perceptions of ED physiotherapy. A thematic analytic approach was the most holistic way of synthesising the numerous participants' responses. Using interpretivist theory the researcher explored the world through the participants' lenses (Daley, 1997), gaining insight into how the stakeholders interpreted and explained the role of physiotherapy in the emergency setting. From nearly 450 pages of surveys, transcripts and questionnaires the researcher deconstructed countless words and phrases into analytically generalisable core meanings (Curtis et al., 2000). Thematic analysis was the tool used to take these subjective viewpoints and organise them into patterns that reflected the essence of participants' experiences (Aronson, 1994).

Ideas were organised into logical headings and themes (Butcher et al., 2001). Each theme was a representation, 'an abstract entity that brings meaning and identity to a recurrent experience and its variant manifestations' (DeSantis & Ugarriza, 2000, p. 362 in Saunders & Byrne, 2002). No one experience was identical between participants, therefore thematic analysis generalised common experiences in a meaningful way (Van Erp, 2002). Themes were the labels under which clusters of ideas and comments were organised. Each idea was logically connected but was also particular to the individual respondent, supported by using their 'voice' through inclusion of quotations (Saunders & Byrne, 2002).

Inductive reasoning from the data meant that findings were generated from a ground-upwards approach to analysis. Each raw data set was analysed with a view to seeing what emerged, rather than looking for existing ideas (Pope et al., 2002). Participants' responses were revelatory through analysis, not from pre-determined themes needing to be matched to participants' views. This was essential within the interpretivist-systems framework, as:

... qualitative research . . . takes the position that an interpretive understanding is only possible by way of uncovering or deconstructing the meanings of a phenomenon (Thorne, 2000, p.68).

A pragmatic approach was to thematically analyse data over three discrete phases:

- i. Initially searching for broad patterns in the data set;
- ii. Classifying data (words, phrases and ideas) under patterns or headings; and
- iii. Combining and cataloguing patterns further into themes and sub-themes, to bring together otherwise isolated ideas (Aronson, 1994, p.1).

Each phase moved in and out of being coded manually and using NVivo version 7.0 (2007). Traditional thematic analysis relied on manual techniques (cutting, pasting, highlighting and rearranging) but with the advent of increasingly sophisticated qualitative software packages such as NVivo, the combination of manual and computer analytic methods was chosen to enhance auditability and credibility of analysis, creating a manageable trail of evidence (Butcher et al., 2001). Record-keeping of participant responses, the number of references made to individual themes and the opportunity to link themes through memoing was particularly easy with NVivo (Walsh, 2003). However, returning to traditional methods of cutting and pasting for the third phase of data analysis was a personal choice to help the researcher feel connected to the data, literally immersed in quotes and notes that had been systematically organised by NVivo during the second core phase of analysis. This process is further outlined in section 4.9.2.

A final analytic consideration was the strength of meaning of each theme for each case under consideration. Simply, how strong was theme α in Townsville compared with theme α in Melbourne? Were themes genuinely connected, and therefore a core perception of ED physiotherapy for these stakeholders? Or was theme α unique to a particular case (Thorne, 2000)? Linking themes between cases, a pre-determined strategy for the data given the research's comparative case study approach, complemented the theoretical foundations of thematic analysis, as Thorne (2000) explains:

Naturalistic inquiry, thematic analysis and interpretive description are methods that depend on constant comparative analysis processes to develop ways of understanding human phenomena within the context in which they are experienced (p. 69).

Responses were clustered to compare cases over individual characteristics. While analysis separated the perceptions of community health nurses, GPs and community-based physiotherapists, for example (Elliott & Gillie, 1998), to meet core research aims, the most meaningful reporting of data was as a collective Townsville stakeholder group compared

with a collective Melbourne stakeholder group, facilitating easier case comparison.

4.9.2 Data analysis process

All data were analysed using a combination of manual coding and the qualitative software package NVivo version 7.0. Three different data sources were used and the same data analysis processes were conducted for each data set. Each stakeholder group's findings were treated as a single data set, so the data analysis process was firstly conducted for emergency department patients' surveys (N=80), then community health professionals' questionnaires (N=35) and finally emergency department staff interviews (N=12).

Three phases of thematic analysis were conducted, based on a pragmatic approach described by Aronson (1994):

- i. Initial manual coding and pattern generation of raw data (first core phase);
- ii. Re-coding and clustering of codes into themes in NVivo (second core phase); and
- iii. Final manual theme development using data transformed by NVivo (third core phase).

The researcher firstly immersed herself in the data. Surveys and questionnaires were read and re-read several times to develop a feel for participants' perceptions (Elliott & Gillie, 1998). Interviews were listened to several times and then played again with the written transcripts in hand, with the researcher making notes on the sides of the pages about participants' tone and thoughts (Halcomb & Davidson, 2006). The researcher highlighted key phrases or words that were revealing about the phenomenon under consideration (Van Erp, 2002).

Each line of text or sentence of interview was broadly assigned a descriptive label, or code (Butcher et al., 2001). Often an idea could not be contained in a single word so it was usual for a code to consist of a brief statement, such as '*ED physio does not need extra responsibility*'. This was a more true-to-life reflection of meaning, pursuing a 'good code' that captured a rich angle of the phenomenon (Fereday & Muir-Cohrane, 2006). The process of highlighting, noting and coding continued until all data were classified (Van Erp, 2002).

Participants' surveys, questionnaires or transcripts were uploaded into NVivo version 7.0. Each stakeholder group had their own NVivo page and colour to facilitate constant case comparison. Data were typed in as written or spoken by participants to retain accuracy of information. Codes were clustered under more representative themes. Whole sentences or paragraphs were grouped under a heading to provide a holistic context of the statement and

NVivo stored this as an ongoing list. For example, coded interview data describing features of patient and staff education were placed within a second-order theme on the *role of education in evidence-based practice*, ultimately integrated into a first-order section on *‘encouraging evidence-based practice and streamlining the emergency department’*.

Occasionally themes developed in NVivo raised various sub-themes. Data related to *‘struggling community health sectors’* raised sub-themes concerning *lack of GPs, lack of quality training and poor affordability*, for instance. While these were appropriately nested within the broader heading because it related better to the conceptual framework (a more ‘holistic’ reflection of the system under investigation), they also warranted their own data under each sub-heading as they were recurring ideas on their own.

Themes generated from NVivo analysis were coded for a third time, with a view to manually clustering codes and themes under final, representative labels. Figure 17 typifies the outcome of the three-phase analytic process.

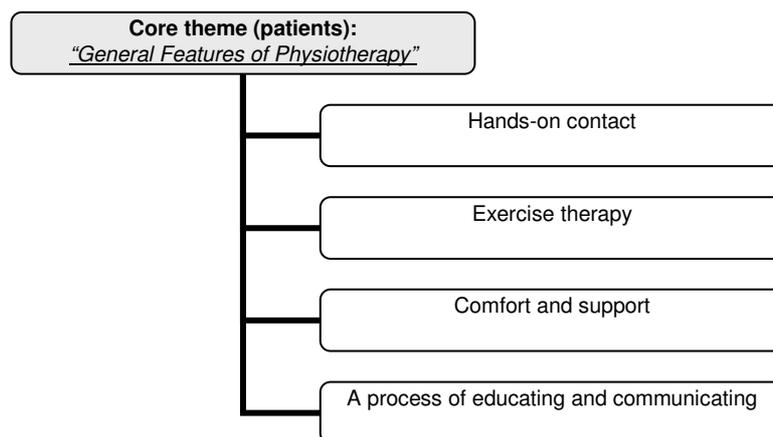


Figure 17: Example of thematic hierarchy from patient data

Each theme and sub-themes or codes within were printed. A list of themes generated by NVivo was also printed as a reference for the researcher. Coded data were re-read, cross-matched to existing themes, then cut out and arranged under final headings to summarise core findings. Data were arranged on A3 size posters and memo notes, and arrows connected any relevant data points across the themes. Clear distinction between The Townsville Hospital and Austin Hospital cases were made by printing on different coloured paper or using different coloured ink, reinforcing case comparison. The result was entire walls filled with codes and quotations under final themes that simultaneously separated and connected findings from both cases (Figure 18).



Figure 18: Example of a coding wall – emergency department patients’ data

4.9.3 Summary of data analysis

In summary, data were analysed using thematic analytic techniques over three phases (Figure 19).

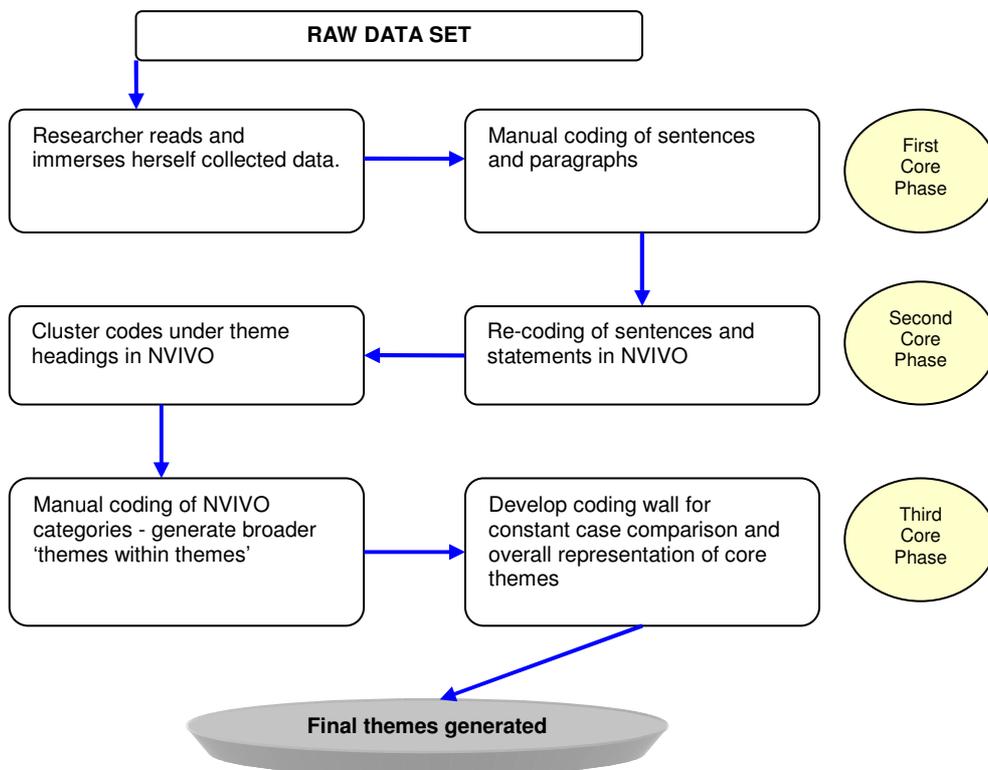


Figure 19: Summary of data analysis

A combination of manual and computer methods enhanced thoroughness of evaluation and

improved efficiency. Themes were visually displayed into a coding wall to facilitate constant comparison, and numerous quotations were embedded in the results chapters (6-8) to create an auditable data trail and interpretivist feel to the findings.

4.10 Enhancing research trustworthiness

‘Trustworthiness’ in qualitative research, used interchangeably with ‘rigour’, is founded on four core principles: credibility, confirmability, transferability and dependability (Miles & Huberman, 1994; Tobin & Begley, 2004). Rigour is ‘... the construction, application and operationalisation of these [above] attributes [requiring] innovation, creativity and transparency in qualitative study’ (Tobin & Begley, 2004, p.390). Morse and colleagues state that without rigour, research merely reports fiction and is rendered worthless (Morse, Barrett, Mayan, Olson, & Spiers, 2002). Therefore, transparently displaying how each component of trustworthiness is achieved is essential for demonstrating believable and valid qualitative research. Various trustworthiness strategies were used to preserve the integrity of the qualitative approach to this research. Trustworthiness procedures for this research are summarised in Table 10 in section 4.11.

4.10.1 Credibility

Credibility explores the truth-value of the research process and findings (Morse, 1994). An etic-emic tension¹² provides the most accurate, representative description of the research; that as much as possible the ‘truth’ has been interpreted (Morse, 1994). Credibility of qualitative findings was demonstrated through research triangulation (multiple data sources), peer debriefing, careful determination of research samples and auditable data trails.

Systems theory principles dictated that multiple stakeholders within the emergency system be investigated to provide an accurate reflection of how the ‘system’ interconnects (Anaf et al., 2007). Each stakeholder group was a human ‘element’ of a broader system and combining their perceptions gave a more accurate reflection of the ‘whole’ (Anaf et al., 2007; Dooris, 2005). Triangulation meant gathering evidence from various research methods – interviews, surveys, questionnaires and observations (Mays & Pope, 1995b). Central to the development of the conceptual modelling process was not only the variety of sources used but the variety of stakeholders reflecting on the same theme: physiotherapy’s contribution to the emergency department system (Tobin & Begley, 2004). Synthesis of different perspectives, increasing both the breadth and depth of the data (Figure 20) (Anaf & Sheppard, 2007c; Bursnall, 2003; Mays & Pope, 1995a), informed the findings.

¹² Balancing the views of insiders (participants) with that of outsiders (the researcher).

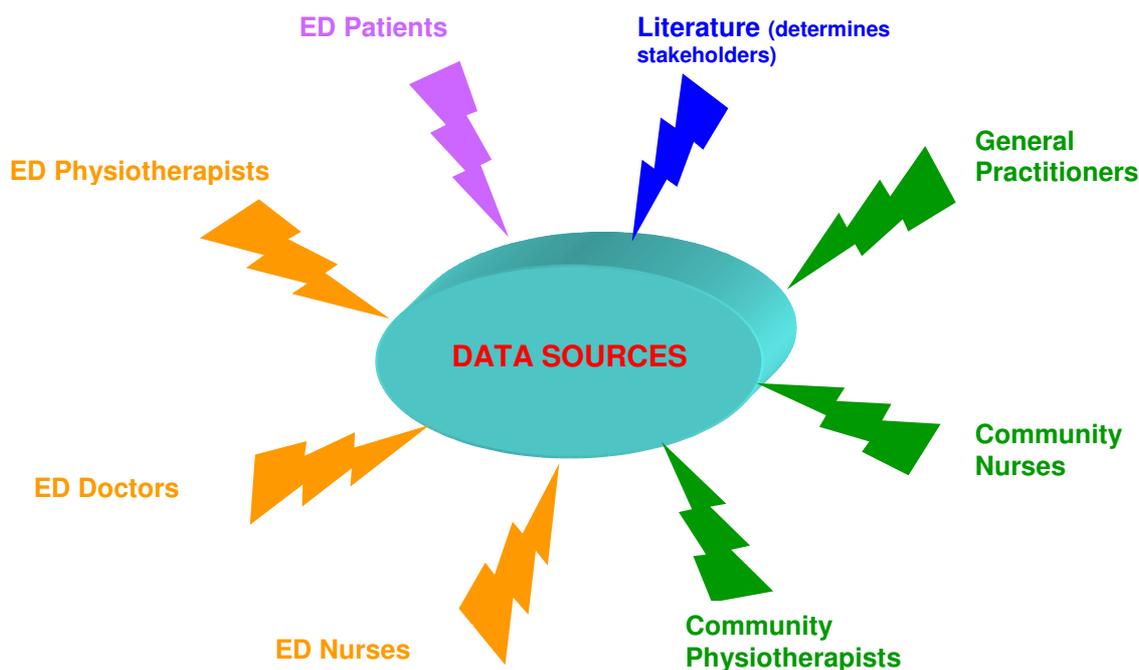


Figure 20: Summary of multiple data sources

Peer debriefing enhanced the objectivity of data analysis (Byrne, 2001; Tobin & Begley, 2004). The researcher and an additional (second) coder explored the data to arrive at conclusions. The second coder offered a fresh perspective on the findings, supporting or refuting the primary researcher's perceptions (Byrne, 2001). Peer debriefing was conducted with the emergency department staff interviews. As these were the most complex and nuanced, the researcher considered that accurate coding of these would confirm her accuracy of coding for the qualitative surveys and questionnaires. Therefore, the two coders reflected on findings from the twelve interviews and debated the truth-value of themes until both were satisfied that the themes' intended meanings were communicated (Miles & Hubermann, 1994).

Determination of the participant samples was a key component of research rigour (Miles & Hubermann, 1994). The combination of purposive sampling with meaningful saturation of findings addressed the phenomena under investigation in a way that was relevant to the conceptual framework (Curtis et al., 2000; Miles & Hubermann, 1994). Thus the sample was credible and consistently contributed to the research aims because, as Dixon-Woods and colleagues noted:

...to a much greater extent than in quantitative research, the execution of the qualitative research study type is crucially related to the theoretical perspective in which the researchers have chosen to locate the study (Dixon-Woods, Shaw, Argawal, & Smith, 2004, p. 225).

Purposive sampling strategies were an investment in the research's theoretical framework and rigour.

A final component of credibility was establishing an auditable trail of evidence (Tobin & Begley, 2004). While also fulfilling confirmability, an audit trail enhanced credibility by theoretically permitting an external reviewer to follow how the researcher arrived at the interpretation of the participants' views (Tobin & Begley, 2004). The first strategy was using qualitative computer software (NVivo) that stored all transcripts, surveys and questionnaires, and coded data as an ongoing database (Seale & Silverman, 1997). The trail of quotations, memos and cross-case comparisons illustrated systematic data analysis (Seale & Silverman, 1997). The second strategy was creating coding walls (see Figure 18), which visually outlined the themes' order and logic within stakeholder categories and the meaningful quotations within them as a final stage of the thematic analytic process.

4.10.2 Confirmability and dependability

Confirmability refers to the objectivity of the research process; one of 'relative neutrality and reasonable freedom from unacknowledged researcher biases' (Miles & Huberman, 1994, p.278). Confirmability was achieved through the afore-mentioned audit trail (Miles & Huberman, 1994; Seale & Silverman, 1997) and judicious explanation of methodological processes in the thesis write-up.

Dependability implies that the research process is stable, consistent and ultimately replicable (Miles & Huberman, 1994). Dependability within the research team was demonstrated through inter-rater reliability of coding, showing that themes were also evident to another researcher (and thus interpreted through open and relatively objective eyes). The data collection and analytic processes were systematically conducted and explained in great detail, from the challenges of site selection to the particulars of thematic analysis (Miles & Huberman, 1994). The interpretivist perspective means that complete replication of findings is virtually impossible, and as the topic of ED physiotherapy becomes more prevalent, so too does the understanding of its contribution to the emergency system. Replication of the research *process* in a similar context is possible, resulting in evolution of the current findings, as the researcher endeavoured to make the process as logical and traceable as possible (Tobin & Begley, 2004).

4.10.3 Transferability

Transferability describes the ability for the research findings to be transferred to other contexts and the extent to which they are generalisable (Miles & Huberman, 1994).

Qualitative research does not aim for statistical generalisability, however it is believed that this research has applicability to other sites and contexts. The comparative case study approach used meant that the research sites had distinct differences, most obviously metropolitan or regional status, and tropical or temperate climate. However, each emergency department in Australia follows the same model of practice as described by the Australasian College of Emergency Medicine (Australasian College of Emergency Medicine, 2005). The emergency systems' functions are technically bound by a consistent, stable list of responsibilities. Consistency between roles (for example, the role of an emergency doctor or the role of being a patient) is likely, or at very least applicable (in theory) to other sites in the region, regardless of the individual facility and information derived from the multiple stakeholder perspectives.

Participants' characteristics were fully described within ethical boundaries (Miles & Huberman, 1994), as describing the settings and participants encouraged comparison with other settings, such as other emergency departments, enhanced applicability of the findings (Miles & Huberman, 1994). Results were specific to the two cases under investigation, but the broader theory and conduct of the research was intended to be sufficiently flexible to further Australian ED physiotherapy research and policy development.

4.11 Conclusion

Chapter 4 has outlined a replicable research method, including the development of stakeholder data sources, the conduct of the research process and the measures of trustworthiness, or rigour applied (summarised in Table 10). All data methods are well established in qualitative inquiry and therefore appropriately aligned with the *interpretivist-systems theory-case study* theoretical framework.

Some of the more creative approaches to data analysis, such as developing the 'coding walls' (Figure 18, see p. 117) and the conceptual drawings of the emergency departments (Figure 14, see p. 98) were integral to the researcher 'feeling' the data. Not only did they contribute to the creation of themes via the thematic analytic process, they also made otherwise rudimentary descriptions written on the surveys and questionnaires take on a more narrative, 'lively' feel when nestled with other responses. It helped to better contextualise and interpret responses. These 'coding walls' in particular reinforced the researcher's commitment to letting participants talk and helping them link their views together.

Table 10: Summary of research trustworthiness

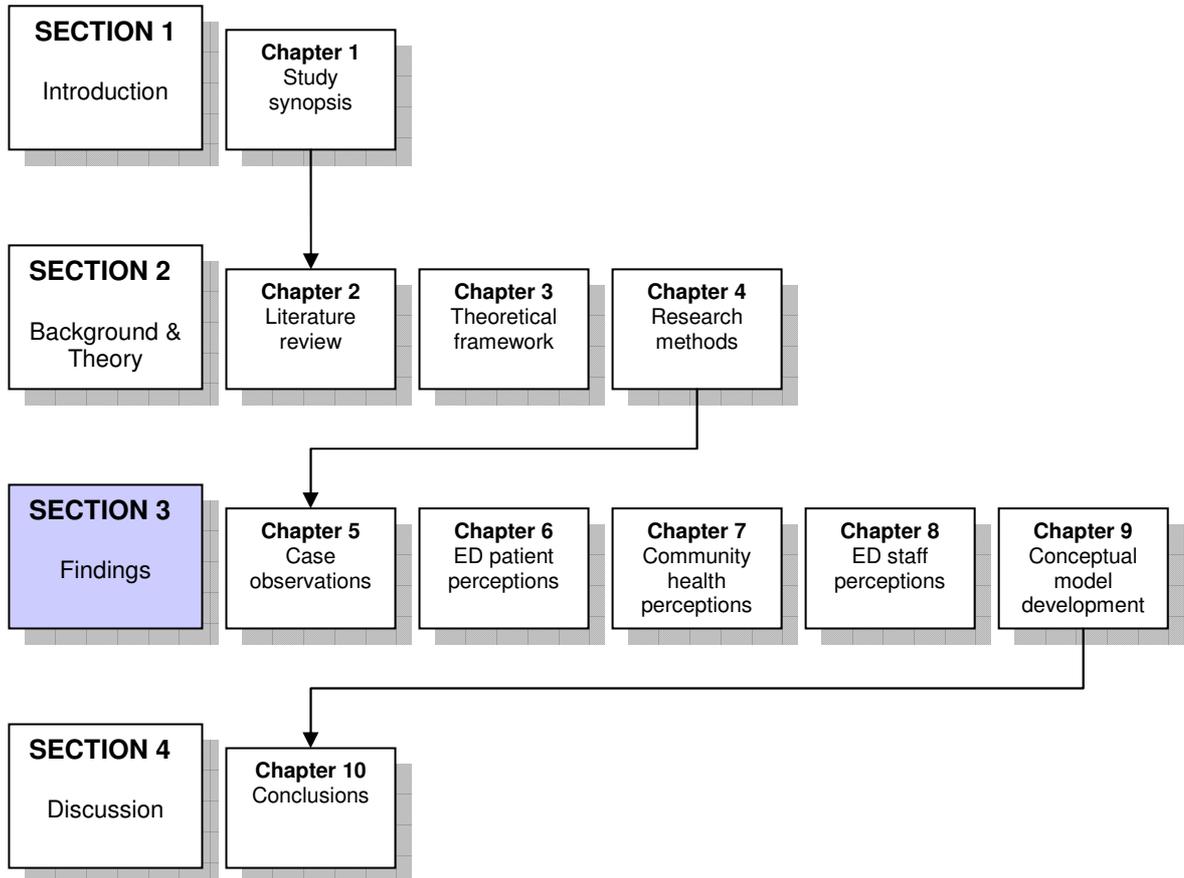
| Key authors | | (Byrne, 2001; Miles & Hubermann, 1994; Morse et al., 2002; Seale & Silverman, 1997; Tobin & Begley, 2004) | |
|------------------------|--|--|--|
| | Component of rigour | Integration into study | Phase of study |
| Credibility | <ul style="list-style-type: none"> • Method triangulation • Sample selection • Peer debriefing • Auditable data trail Section: 4.5; 4.9.2; 4.10.1 | <ul style="list-style-type: none"> • Multiple data sources and methods. • Piloting of survey and questionnaire for face and content validity. • Purposive sampling selection and intent to theoretically saturate data. • Development of coding wall and combined use of manual and computer analytic techniques create audit trail. | <ul style="list-style-type: none"> • Pre-data collection preparation. • Pre-data collection preparation. • Pre-data collection preparation. • Data analysis. |
| Confirmability | <ul style="list-style-type: none"> • Auditable data trail • In-depth method description Section: 4.4-4.9, 4.10.2 | <ul style="list-style-type: none"> • Development of coding wall and combined use of manual coding and NVivo to enhance 'objectivity'. • Detailed description of processes and procedures in Chapter 4. | <ul style="list-style-type: none"> • Data analysis. • Thesis writing. |
| Dependability | <ul style="list-style-type: none"> • Inter-rater reliability • In-depth method description Section: 4.4-4.9, 4.10.2 | <ul style="list-style-type: none"> • Percentage of coding agreement to show agreement of thematic conclusions from more than one perspective. • Detailed description of processes and procedures in Chapter 4. | <ul style="list-style-type: none"> • Data analysis. • Thesis writing. |
| Transferability | <ul style="list-style-type: none"> • Detailed description of participants and settings • In-depth method description • Consideration of broader ED system roles Section: 4.2, 4.3, 4.4-4.9, 4.10.3 | <ul style="list-style-type: none"> • Descriptive statistics and participant roles described within ethical guidelines. • Detailed description of processes and procedures in Chapter 4. • Use of literature on ED systems. | <ul style="list-style-type: none"> • Data analysis. • Thesis writing. • Pre-data collection preparation. |

Stake (1995) proposes that successful qualitative case study research will offer extensive narrative descriptions to further define the cases being investigated. In doing so, data

become situated within increasingly complex themes and, progressively, the researcher will summarise what is understood about the cases, and how generalisations about them have evolved over time and with analysis (Stake, 1995). This chapter's explicit description of the research methods, and the 'inverted pyramid' approach to data collection, enable building and understanding of the two cases/systems, as presented in the following chapters.

SECTION 3

FINDINGS



5 Case Observations

5.1 Introduction

This first of four results chapters uses data gathered from observational periods to describe the two emergency departments under investigation. This achieved the dual aims of providing an interpretivist perspective for the researcher (Van Belle & Trusler, 2005; Van Erp, 2002; Veenstra, 1999), and depicting the systems' interrelationships between staff, patients, families and other human system elements (Anaf et al., 2007; Dooris, 2005).

Stakeholder data collection was conducted using the observations as a frame of reference. For example, patient responses criticising excessive waiting times in the emergency department were validated by the researcher's first-hand experience of seeing many patients in their beds for hours. Similarly, staff frustrations in the interviews about the lack of emergency beds made better sense having witnessed patients lying in the corridors on trolleys.

This chapter separates the observations of the two cases into discrete sections in readiness for the comparative case analysis of the remaining findings (Chapters 6-8). It also conceptually illustrates the Austin Hospital and The Townsville Hospital emergency departments as witnessed by the researcher during periods of observation while collecting data.

5.2 The Townsville Hospital Emergency Department

5.2.1 Background

The Townsville Hospital was selected as the first case because it was central to the researcher's university base and did not have a permanent ED physiotherapy model in place. Despite these pragmatic considerations, there was also a pertinent theoretical background to its selection. In the wake of mid-2000's scandals in the Queensland Health system, most prominently the allegations of surgical and mental health service incompetence in regional Queensland hospitals such as Bundaberg and Townsville (Davies, 2005), Queensland Health was forced to create a mood for change, commissioning independent inquiries into the state of the public hospital system and how the health workforce could be better used (Davies, 2005; Forster, 2005). Queensland is the most de-centralised state in Australia, with regional centres such as Townsville and Cairns to the north attracting a sizeable proportion of the

The Townsville Hospital is 1375 kilometres from the nearest major hospital, the Royal Brisbane Hospital. Obviously this distance makes transferring patients to Brisbane difficult and impracticable. As one witness put it:

Brisbane is closer to Canberra than it is to Townsville, and is closer to Melbourne than it is to Cairns

The remoteness of the Townsville Hospital means that it has little choice but to accept all emergency transfers within the Northern Zone and is generally not in the position of being able to refer a patient on to another tertiary referral hospital.

Like all tertiary referral hospitals, the Townsville Hospital has a busy emergency department. The remoteness of the Hospital, however, and the difficulties in transferring patients to Brisbane place significant pressures on the hospital. Evidence was given that, despite the hospital being built only three years ago, it has insufficient beds to meet demand.

(Davies, 2005, pp. 271-276)

state's population away from the south-east capital Brisbane (Davies, 2005). De-centralisation within the state borders presents numerous challenges for the health system, including extra pressure for regional hospitals, such as Townsville, to be completely self-sufficient and able to accept a vast range of clinical conditions and traumatic presentations (see inset box – left).

The Queensland Public Hospitals Commission of Inquiry commented on several concerns of staff in The Townsville Hospital, and specifically in the emergency department, including:

- A lack of consultation between the hospital funding providers and community on community needs;
- A lack of inpatient beds causing unacceptable levels of emergency department access block; and
- An increase in absenteeism, sick leave and overtime requirements among emergency department staff (Davies, 2005).

Simultaneously, the Productivity Commission's report on Australia's health workforce advocated innovative allied health strategies, such as ED physiotherapy (Australian Government Productivity Commission, 2005), as one option to attract staff to the emergency setting. New clinical roles not only offer an attractive, alternative direction for physiotherapists and other allied health professionals within the public health system, encouraging retention and skills enhancement, but have the capacity to address non-urgent cases within the emergency department, streamlining the department and relieving some of the burden on emergency doctors and nurses (Australian Government Productivity Commission, 2005). The Productivity Commission paper used the success of ED physiotherapy's application in the NHS in the UK as evidence of its potential viability within Australia (Australian Government Productivity Commission, 2005; Woodard, 2005a,

2005b).

The Townsville Hospital was an ideal regional case for this dissertation due to its staff's documented frustrations about certain features of the emergency department's operations (Davies, 2005); its status as a primary tertiary referral centre (Davies, 2005; Forster, 2005); recommendations within the Australian Government and Queensland Health system to consider ED physiotherapy roles as an innovative workforce strategy (Australian Government Productivity Commission, 2005; Forster, 2005); and the fact that it had no permanent, dedicated ED physiotherapist that fit the definition used by this research.

5.2.2 Synopsis of case observations

Emergency department observation periods occurred on Monday the 19th and Tuesday the 20th of February, 2007. The researcher arrived at the department at 8am to coincide with a shift changeover. Once past the triage counter the first unanticipated image was a corridor with patients lying on their trolleys. The mood here was not sombre or frustrated, however. Patients were chatting and laughing with each other while they waited to be seen by staff. A whole-team meeting was being conducted in the main treatment area to coordinate patient and staff handover. The Head of Emergency made a joke at the end of the meeting about the likely Monday chaos that would ensue. Coincidentally six paramedics arrived at the department transporting three elderly patients. Tuesday morning the same routine was repeated, although this time the corridor had five patients in their beds and an extra man in a wheelchair sitting on the periphery. It was difficult to say from observation whether the department had failed to 'catch up' from Monday's heavy load or if this was a completely separate incident of access block. At no point during either morning did the corridor between the triage area and the main ward clear, and almost all of the four or five people lying in the corridor were elderly patients (Figure 21).

The first half of both mornings was consumed by medical reviews, with teams consisting of senior and junior doctors and nurses evaluating each patient's case. The Short Stay Unit (SSU), separate to the main treatment area, ranged from 50-80% capacity, a quiet contrast to the remainder of the department. It presented more typically as a hospital ward with many patients sleeping or sitting quietly, and doctors spending a longer time consulting them. The pace was considerably slower, although many of the patients were more ill than in the Fast Track Unit (FTU), the busiest section of the emergency department.

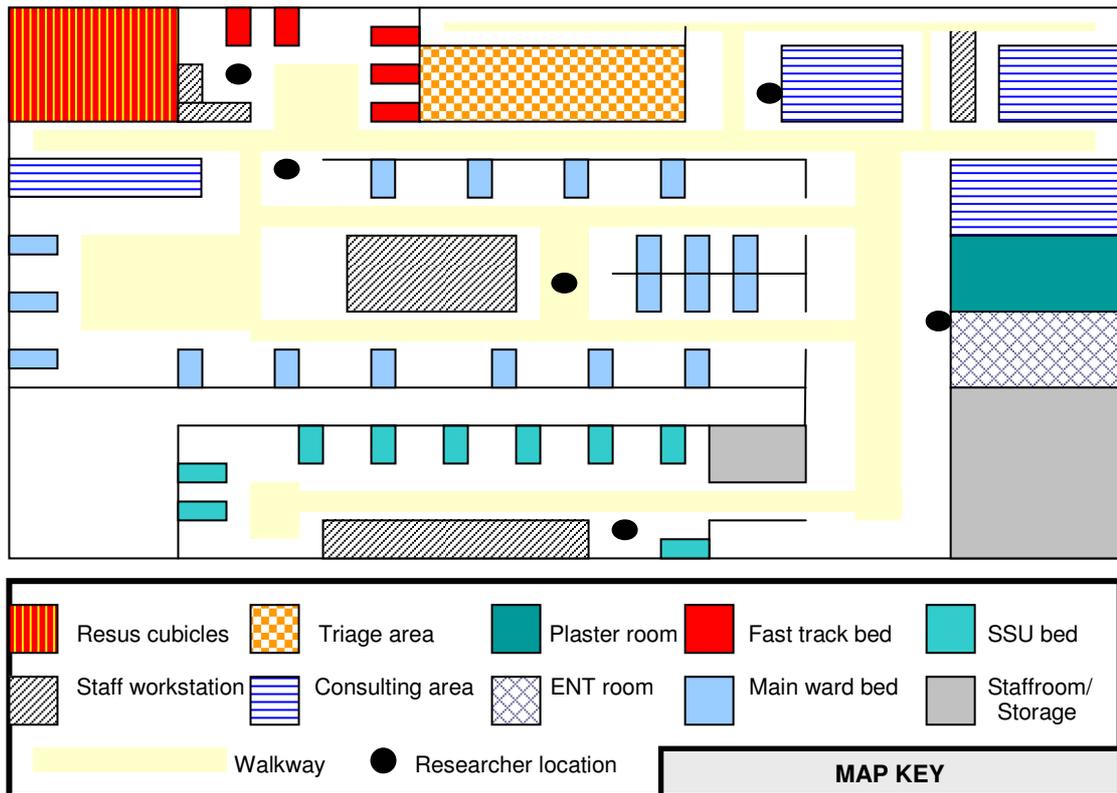


Figure 21: Conceptual layout of TTH Emergency Department

Two of the eight beds located here were designated paediatrics beds, although they were regularly occupied by adult patients. In contrast to the main ward and SSU, FTU staff were focussed on treating and discharging patients, with very little time for discussion with them. Staff were most visibly frustrated in the FTU, perhaps because of the added pressure to discharge given the constant stream of patients being triaged. Nurses and administrative support staff provided the majority of care, while doctors provided brief consultation, as most patients had minor injuries.

The corridor between the triage area and consulting rooms was a waiting area and one of the researcher's vantage points (Figure 21). It was sobering, with many patients visibly in pain, vomiting, crying or pacing as they waited for medical consultation. It was rare for the waiting area to be empty. Usually there were three to five patients queued for services, excluding those in the main waiting room. Many directed their frustrations towards the neighbouring triage nurse, and would often attempt to pull aside passing doctors, nurses and even the researcher to try to speed up the process.

The main ward area, the largest section, was in a constant state of flux. It was always at least three-quarters full. Patients varied from appearing really unwell and on respirators to wandering around in their pyjamas and chatting with other patients. There was little privacy,

and given the often confronting nature of medical procedures, not to mention that the paramedics brought all new patients into this area for the bed allocation process, it was surprising that most patients seemed oblivious to activity in the surrounding cubicles. Some made inappropriate demands of staff, especially the nurses, such as asking for massages. As well as providing ward care and medications, and fielding phone inquiries, nursing staff often had to placate irate patients, and follow up on non-clinical services such as late meals or missing trolleys.

The social workers were the most prominent allied health members in The Townsville Hospital Emergency Department. Nurses called them down to coordinate patient discharge and they worked closely with the Aboriginal Liaison Officer (ALO) with the discharge of indigenous patients. The ALO was only seen twice, despite there being at least half a dozen Aboriginal and Torres Strait Islander patients in the department at any one time.

The elderly were the biggest population in the department, with estimated capacity ranging from 50-85% of beds over the two days. This was contrary to the researcher's assumption that the emergency department would be biased towards younger people's traumatic injuries, given the enormous army and mining population in Townsville. The elderly also comprised the biggest users of paramedic services.

5.2.3 System reflections

The paramedics were the most pervasive connection between the emergency department and the community; a continual source of boundary permeability. They constantly brought in patients and handed them over to the nurses. A strong relationship between the nurses and

Examples of documented case observations

A female patient who was discharged half an hour ago is wheeled back in with an emesis bag by her husband. A nurse advises the husband that he needs to take her back out to triage to get her re-entered into the system/ computer – “*no hassles to treat her again, but you need to first fill out some paperwork*” – how did he get back in to the ED without seeing triage?

The physiotherapist is doing PAIVMs (passive intervertebral movements) over the mid-thoracic/ lumbar spine of an SSU male patient. Explains to patient she is *feeling the vertebra*. Explains to the SSU nurse, “*this is what we do in outpatients*”. Offers patient advice on sitting poorly, lying in a better position, and general advice on positioning.

Paramedics have just brought a bleeding patient into SSU. Paramedic cleans himself up in main pod, but still chatting with other ‘ambos’ as they pass each other. Gives handover of patient to NUM from main ward – they take a subjective history in the corridor prior to the patient being assigned a bay.

The social worker has arrived to assess a man in the corridor. Exploring patient's financial situation and family situation. Social worker is finding him accommodation.

Patient and tea-lady talking about how he has to fly to Cairns because there is no ENT specialist for his sinus infection – complaining how shortcuts end up costing the tax payer more money.

ambulance officers was evident, and necessary for smooth, efficient transfers and allocation of patients to beds. None of the patients had particularly high ATS categorisations, so the biggest concern was centred on finding a free bed. This appeared to be a persistent source of stress for the nurse in charge of bed allocation; not keeping the paramedics waiting too long and simultaneously making sure the patient received prompt medical attention.

Boundary permeability, where people entered and exited the department as they were not a permanent fixture, consistently involved the allied health professions. Physiotherapy, occupational therapy, radiography, social work and Aboriginal liaison officers (ALOs) all had dedicated staff members to provide assessment and intervention on an on-call basis for the emergency department. Physiotherapy offered a primary role in acute musculoskeletal management and mobility assessment for discharge. Techniques included pain relieving (Grade I, II), mobilisations for acute low back pain, advice on lie-to-sit and sit-to-stand transfers, and the provision of gait aids (mainly rollator frames) for elderly patients. The occupational therapy role was less clear on observation, although they appeared to coordinate assessment of activities of daily living (ADLs) and determine patients' levels of functional ability for discharge. Arrangements were also made for patients' home assessments and modifications. Physiotherapy and occupational therapy should have been logically connected by their service provision to patients, however they were observed to work completely independently, with no evidence of cross-discipline liaison or consultation in the emergency department setting.

Strong relationships were shared between the medical staff, nursing staff and administrative support services within the emergency department boundary. They relied on sharing roles such as venepuncture tasks between doctors and nurses, and efficient triage to improve patient waiting times between nurses and administrative officers, to move patients through the system. These professions also repeatedly relied on the computer network system (medTRAK) to review patient x-rays, allocate triage categories, research patient interventions over the internet and connect the emergency department to other hospital wards.

Figure 22 summarises system relationships of the emergency department, illustrating the key professional networks and professions located outside of the emergency department that were observed to have a working relationship within the department. Importantly, physiotherapy, occupational therapy and social work are depicted outside of the emergency department boundary, reinforcing their transient role and lack of presence in the department.

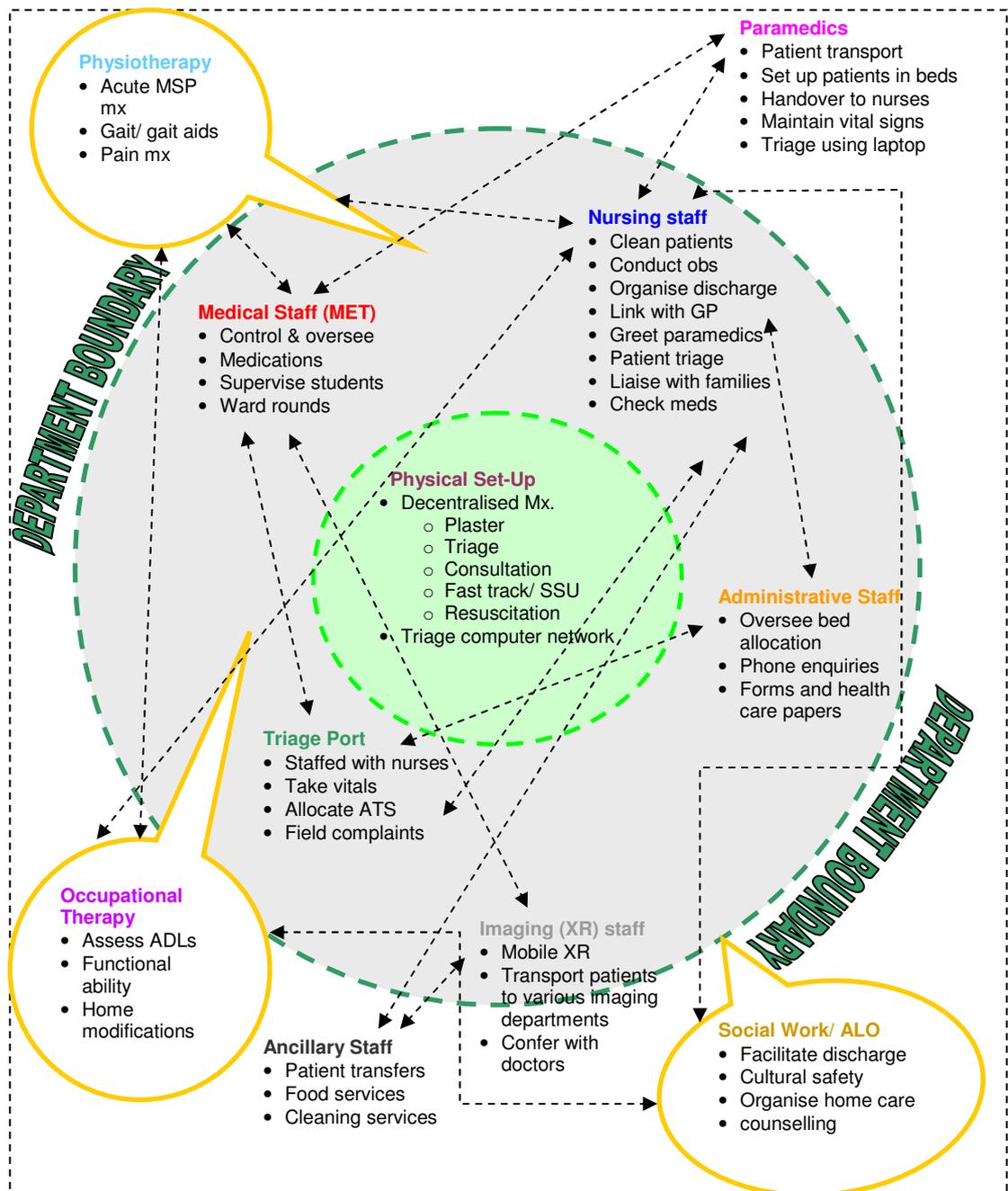


Figure 22: Conceptual drawing of human elements within the TTH emergency system

5.3 The Austin Hospital Emergency Department

5.3.1 Background

The Austin Hospital Emergency Department in Heidelberg, Melbourne, was selected as the second research case because it provided up to 3.3 full time equivalent (FTE) permanent ED physiotherapists (two working at any one time) working a full week roster from 6am to 5pm. This hospital, one of Melbourne's most well known hospitals and research institutes, and a leading organ transplant facility, implemented an emergency department Aged Care

Coordination Team (ACCT) comprising physiotherapy, social work, aged care nursing, dietetics, discharge nursing, speech pathology and occupational therapy over seven years ago (Anaf & Sheppard, 2007a). The ACCT was initially funded by the Hospital Admission Risk Program (HARP) devised by the Victorian State Government Department of Human Services (DHS) to explore how to reduce the admission of elderly patients to hospital via the emergency department (Hough, 2004a).

The ACCT collected yearly statistics on occasions of service provided. For example, hospital statistics from 2004 showed that ED physiotherapy delivered 843 occasions of service over the year, second only to the discharge nurse, making it the emergency department's most utilised allied health service (Hough, 2004b). At the time only one ED physiotherapist was employed, responsible for acute assessment and treatment of patients, gait aid prescription, partly coordinating patient discharge, coordination for ongoing patient care with community health facilities, and delivering in-services to medical and nursing staff on a routine basis (Anaf & Sheppard, 2007a).

In addition, the senior ED physiotherapist was a founding member of the ED Physiotherapy Network, a group of physiotherapists in Victoria who share successes and failures in the development of ED physiotherapy services. A strong emergency department/community connection was evident through the ACCT's liaison with Community Link¹³ health professionals, GPs and Meals on Wheels services, for example, yet the hospital had not researched the ACCT's position on the clinical and professional benefits of this relationship despite the researcher's prior experience conducting a service investigation of the Austin ACCT suggesting this was an area of interest to the team (Anaf, 2005).

The most recent modifications to the ACCT team in the 2007-2008 periods included the renaming of the group as the Emergency Care Coordination Team (ECCT). This better reflected the variety of patients, not just the elderly, requiring specialised allied health and nursing services. Many of the original ACCT staff members, including the original physiotherapist, were still employed within the team, however a recent funding boost from the DHS approved the addition of 2.3 FTE physiotherapists to the ECCT. Coincidentally, the senior ED physiotherapist was promoted to ECCT Team Leader. The DHS funding provided the most solid evidence to date that the inclusion of physiotherapy in the emergency department had service delivery benefits to the hospital, which consequently supported government policy and health objectives (Hough, 2004a, 2004b).

¹³ Community Link is a community-based health service that provides allied health care to patients who have been discharged from the emergency department.

As the ECCT was a long-established service in the Austin Hospital, with dedicated, permanent ED physiotherapists, it was an appropriate comparative case to The Townsville Hospital. A paucity of research conducted on the ECCT (Anaf & Sheppard, 2007a; Hough, 2003) and the recent support from the DHS created further potential for interesting stakeholder opinions. The connection between the ECCT and the community health sector made the research's exploration of the community health professionals' opinions even more relevant (Anaf, 2005).

5.3.2 Synopsis of case observations

Observations at the Austin Hospital occurred on the 26th and 27th of March, 2007. The ED physiotherapist commented that the recently-refurbished department had a spike in presentations, persisting for over 18 months to the present day. It was speculated that the new facility and state-of-the-art design roused public curiosity, yet the 'novelty-factor' was not disappearing, burdening staff and resources.

On both mornings the emergency department was busy due to staff organising case notes and ward rounds. The patients were quiet and the majority were elderly, consistent with Heidelberg's demographic (Anaf & Sheppard, 2007a; Hough, 2003). The main ward was separated into two sections; staff bases one and two (Figure 23). Both provided the same level of care yet elevated staff work areas allowed a 360° view of patients' cubicles. These were a new design feature of the department's refurbishment. The immediate impression of the emergency department was that it was bigger than The Townsville Hospital's but not quite as rushed. The staff seemed generally calm, perhaps due to their anticipation of, and familiarity with, excessive patient numbers. The main wards were the busiest sections of the hospital as they were a nursing and medical staff base, and housed the majority of computers to evaluate x-rays and monitor patients' movements through the medTRAK program.

Doctors and medical students conducted patient rounds in the mornings while the ward clerks simultaneously assessed patient flow through the department. There was a preponderance of elderly patients who looked particularly weak and frail compared with the elderly patients in The Townsville Hospital. There were also several more patient scuffles with staff due to dementia-related illness, psychiatric conditions or alcohol intoxication. A designated secure room was located on the side of staff base one, reserved for acute mental health presentations. There was a conveniently located security team next to the department who managed patient altercations.

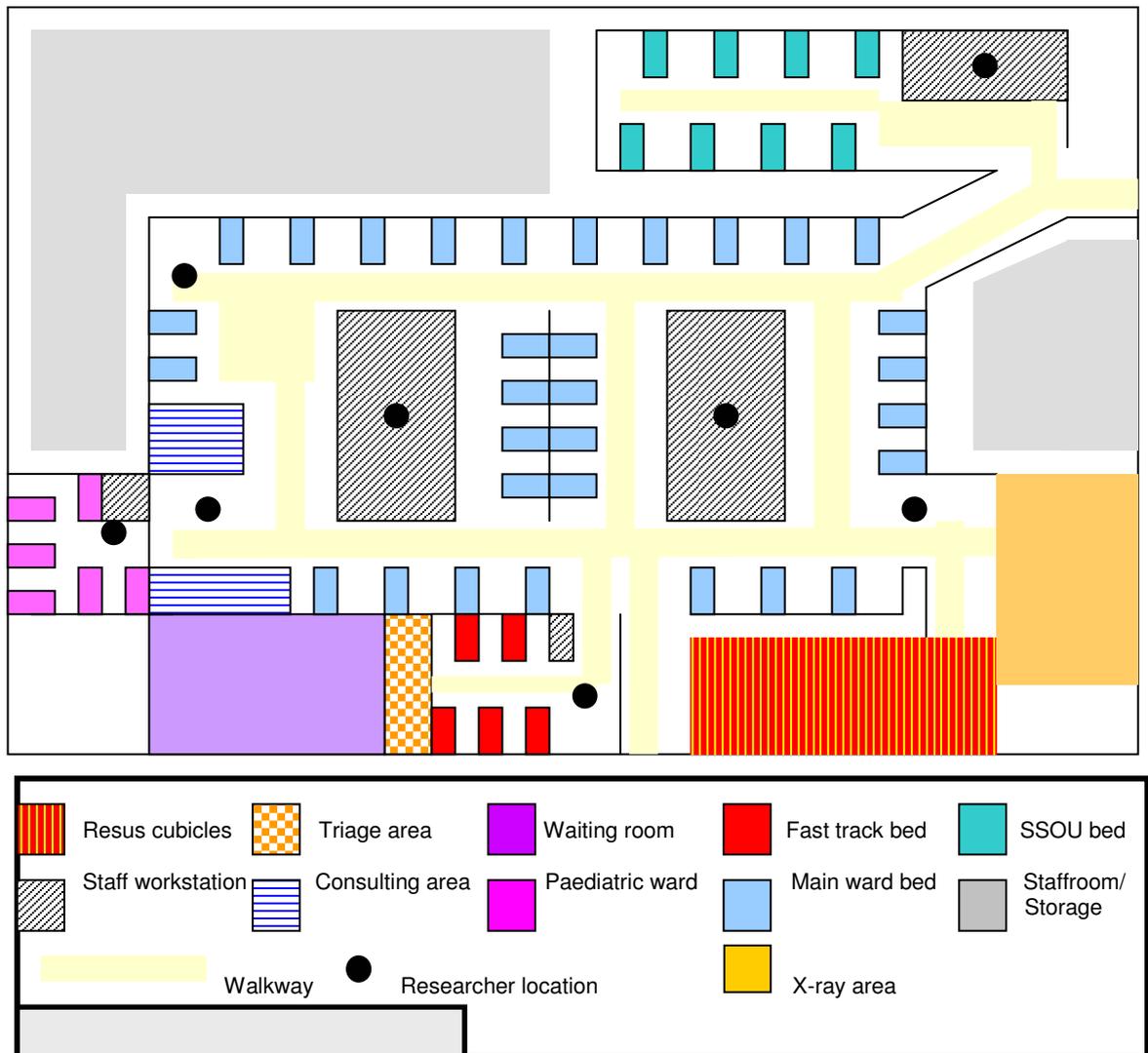


Figure 23: Conceptual layout of the AH Emergency Department.

Staff bases one and two were always at least three quarters capacity, yet contrary to The Townsville Hospital, there were no patient trolleys in the corridors. When this point was raised during an informal chat with one of the charge nurses, she was adamant that the Austin Hospital was focussed on keeping patients in the cubicles and out of the corridors: “not going down that road again”. The majority of patients brought in by ambulance were transported to staff base two for bed allocation and admission. The paramedics were responsible for making patients comfortable, finding blankets, updating patient details via their laptop computer system and transporting some patients away from the department to the community. There was a strong push to discharge patients by 10am to clear the department for the rest of the day.

Examples of documented case observations

ED physio tries to get through to patient's son on phone. Explains what is happening for discharge, especially the use of equipment at home. The patient is suffering from some confusion. Equipment will be delivered and home-based physiotherapy review organised to check patient's progress. Patient will be transferred to home via ambulance.

Security is called to help manage a psychiatric patient in a consultation room. Two nurses and two security agents are needed. The security staff are getting face masks as the patient has a very unpleasant smell, however the nurses appear to be used to this.

The ED appears to have a very varied multicultural population, but there are no indigenous patients present.

A 79 year old man with a full thickness tear is looking to be discharged in readiness for a plastics review in 2 days. ED physio conducts subjective assessment, asks about home status and services, stairs, bathroom and garden. Prescribes a gait aid, organises meals services, asks questions to assess his risk of falls and practices with the patient how to use the gait aid on stairs and flat surfaces.

A nurse in staff base 2 asks if a patient in bed 3 has been seen by a doctor. The response is 'no', and she says "*are you serious? She has been here 17 hours!*"

The ED relies heavily on ECCT to reduce admissions – big elderly and musculoskeletal focus.

The Fast Track section was much smaller than The Townsville Hospital's ward, despite having six beds and two reclining chairs for patients (Figure 23). Patient conditions were minor, such as wounds requiring a small number of sutures, migraines or foreign bodies lodged in patients' eyes. There was a dedicated doctor for Fast Track who, contrary to Townsville, provided the majority of care, occasionally supported by the nursing staff. There was virtually no privacy in the Fast Track area, but this did not seem to bother patients as most were curious to see where the doctor was going and what he or she was doing. The patients were typically younger, mobile and rarely admitted to the hospital from this section.

The Short Stay Observation Unit (SSOU) was a key area in which the ED physiotherapist consulted on a routine basis. Patients required more regular attention and ward care. Many were waiting for external doctors, such as ENT or orthopaedic specialists, to review them. The ED physiotherapist assessed and facilitated walking and transfers, prescribed gait aids, discussed strategies for moving around the home and conducted falls risk assessments. Some of the younger patients based in the SSOU with complex, acute musculoskeletal or orthopaedic conditions also received hands-on clinical interventions such as passive intervertebral movements (PAIVMs), soft tissue massage and repositioning in bed. The emergency department pharmacist also frequented the SSOU to coordinate patient medications within the department and for discharge.

A designated paediatric area in the emergency department served two functions. Its main purpose was

to provide emergency care for children after 1pm, meaning it was not staffed in the morning. Making the most of this opportunity, the ED physiotherapists conducted a regular soft tissue clinic using the vacant paediatric beds and facilities, as the section's second function. Patients who had presented to the emergency department with straight-forward acute injuries such as twisted knees, sprained ankles or low back pain were given an abridged consultation by the physiotherapists. Clinical assessments were conducted (e.g. McMurray's test for meniscus damage) and treatments such as taping and exercise prescription provided. The physiotherapists also coordinated equipment for the home, such as over-toilet frames or walking aids.

5.3.3 System reflections

Development of the ECCT was the biggest difference in how the Austin Hospital and The Townsville Hospital emergency systems functioned. The ECCT centralised patient care by providing the physiotherapy, occupational therapy, social work, radiographic and pharmaceutical management within the emergency department. In contrast, The Townsville Hospital had to coordinate these services from outside the emergency department boundary. Paramedics were again the dominant link between the department and the community, but an added relationship in the Austin Hospital setting was that between the ECCT and Community Link, who provided follow-up allied health care. Telephone, email and paper referrals systems were in place allowing the ED physiotherapist to speak directly to the Community Link physiotherapist to discuss patient management and necessary modifications of homes and gardens, and coordinate the provision of gait aids.

The ECCT fostered greater interdisciplinary liaison between the allied health and nursing professions. Staff not only shared an office but conducted joint assessments, referred patients between team members and asked for clinical advice from different disciplines. For example, the physiotherapists and aged care nurses in the ECCT would discuss complicated medical scenarios, such as the challenge of patients who self-catheterised yet presented to the emergency department with a fractured dominant hand. The relationships within the ECCT were a distinguishing feature of the Austin Hospital, creating a more notable 'system within a system' set up, centralising and containing care within the department.

Figure 24 conceptually illustrates the systems relationships key to the function of the ECCT, a sub-system whose role was defined by those within it, as well as those external to it in the emergency department and the wider community. The most notable comparison between Figures 22 (p. 131) and 24 (next page) is the centralisation of allied health and nursing services, resulting in limited boundary permeability between external allied health

departments. While the physical set-up remained decentralised, the professions were not, and this encouraged interdisciplinary collaboration. It was observed to improve service and discharge efficiency. The ECCT was recognised as an emergency service over an allied health service, meaning it was more thoroughly integrated into the emergency system identity and culture.

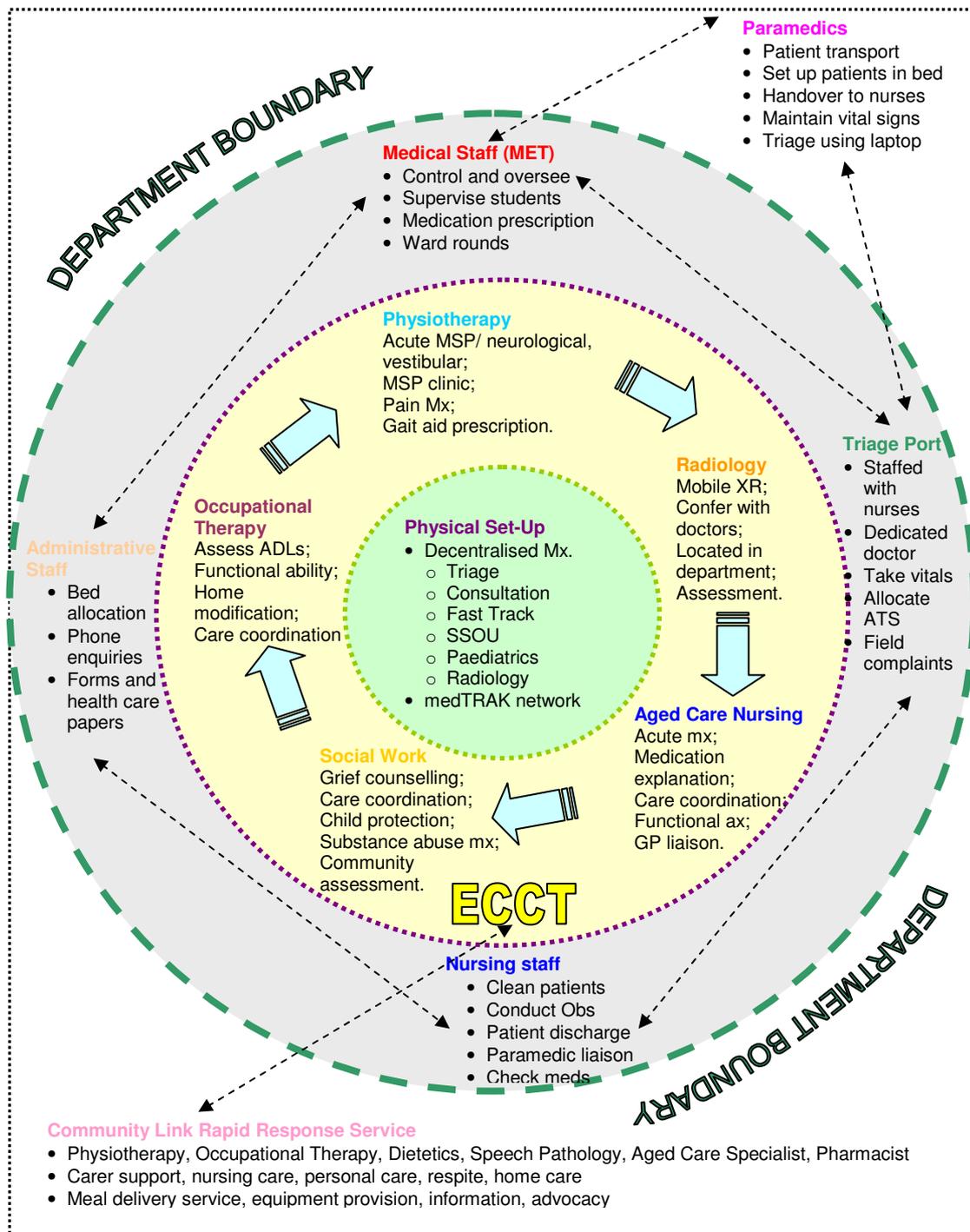


Figure 24: Conceptual drawing of human elements within the AH emergency system

5.4 Conclusion

This chapter has described the researcher's observations on the two case studies – the Austin and Townsville Hospital EDs – and presented initial conceptual drawings of both to help set the context of the cases and make it easier to reflect on the stakeholders' perspectives of ED physiotherapy in the following chapter. The drawings clarify what the researcher saw of the system, reinforcing the study's subjective, interpretive nature, the focus on the different human elements of the two emergency systems, and the interconnectedness between the varying professions.

6 Emergency Department Patient Perceptions

6.1 Introduction

Three ‘silos’ of information evolved from analysis of emergency department patient responses¹⁴. Patients initially identified their expectations of the emergency system; then reflected on their perceptions of physiotherapy and how this translated into an understanding of physiotherapy in an emergency department context; and finally considered how ED physiotherapy influenced service delivery and quality of care. While the nature of the survey instrument facilitated these silos, they were a logical organisation of patients’ thought processes when offering anecdotal feedback about their participation. Most of the patients in each case had never heard of ED physiotherapy prior to this research and the ‘silos’ allowed many of them to reason how physiotherapy would work in a new area like the emergency department.

This chapter presents narrative descriptions of the primary themes, displaying the key textual information conveyed by the patients. Aspects of the literature are considered at various times throughout the chapter to reflect on consistencies with the current findings. Patient responses are highlighted using different colours to constantly compare and contrast information from the various participants and cases. Consistent with Rubin and Rubin (1995), many patients’ quotations are used to illustrate themes to give those patients an active ‘voice’. The researcher considered her role as linking these voices and offering additional explanation and case comparisons.

6.2 Participant characteristics

Eighty emergency department patients were recruited to complete the qualitative survey (N=40 per case). Participants were characterised by their age, gender, if they had previously attended an emergency department as a patient, and how many times. Table 11 summarises these descriptive statistics. Participants also provided their occupational status, as summarised in Figure 25.

¹⁴ Austin Hospital patients are assigned an identity code of ‘AP’ (Austin Patient) plus a number for in-text references. The Townsville Hospital patients are assigned an identity code of ‘TP’ (Townsville Patient) plus a number for in-text references.

Table 11: Participant characteristics

| | The Townsville Hospital (N=40) | The Austin Hospital (N=40) |
|-------------------------------|-----------------------------------|-------------------------------|
| Age (years) # | 38.6 (18.6) | 43.9 (18.9) |
| Male : Female | 17:23 | 21:19 |
| Previous ED attendance | N=31 (77.5%) | N=35 (87.5%) |
| Previous ED visits # | 2.5 (1.9) | 2.6 (2.5) |

Mean (SD)

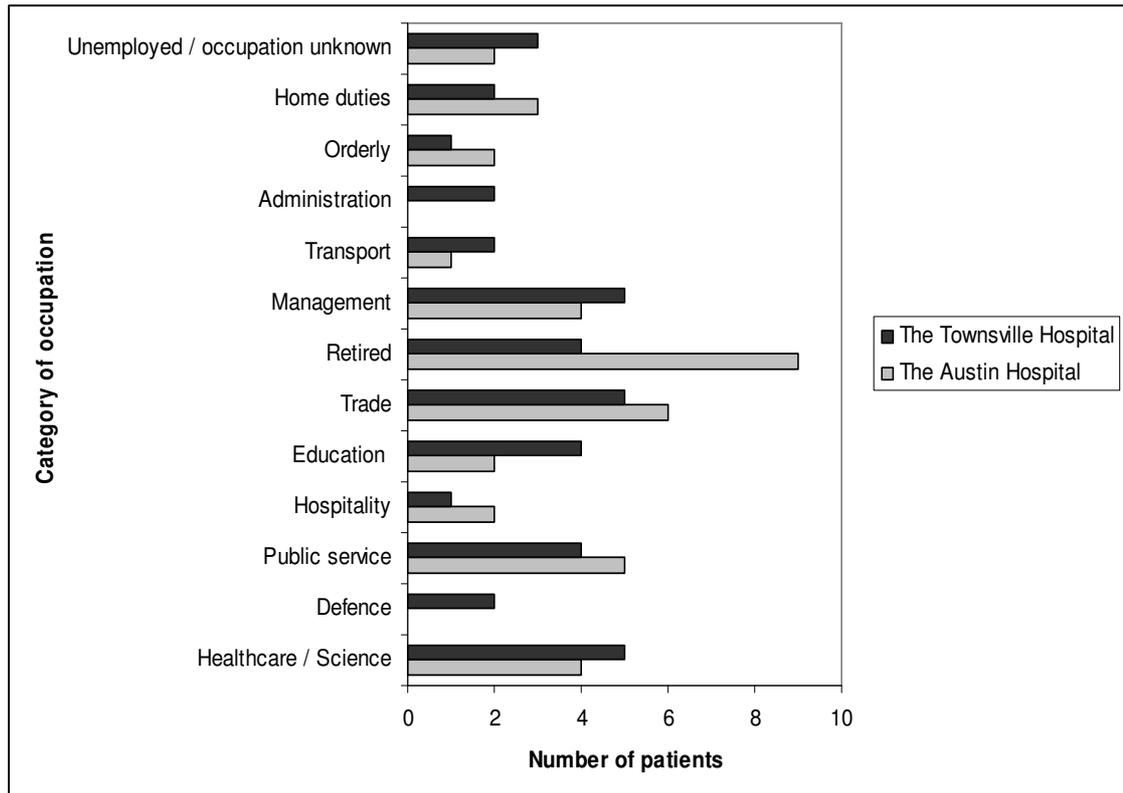


Figure 25: Case comparisons of patient occupations

The mean age of participants was 38.6 years at The Townsville Hospital and 43.9 years at the Austin Hospital. Approximately equal numbers of males and females were recruited (N=38 male; N=42 female). They were distributed equally between the cases. Thirty one participants at The Townsville Hospital and 35 at the Austin Hospital had previously attended an emergency department for their health needs. The average number of previous visits was comparable in both cases; two or three times for most people. There was a wide variety of participant occupations, ranging from tradespeople to those working in the education system to people working in the public service. Two notable case comparisons were uncovered. The Townsville Hospital had participants who worked in defence positions, such as soldiers or air force pilots, whereas no defence personnel were recruited at the Austin Hospital. Instead, there were significantly more retired people at the Austin Hospital.

6.3 Emergency system expectations

6.3.1 A system of prioritisation and waiting

Waiting to be triaged for the presenting condition was a big part of patients' expectations of using the emergency department. How this was tolerated between the cases proved to be a key comparison. Although both cases described the hospital triage process, patients at the **Austin Hospital Emergency Department** (herein known as **Austin ED**) were more pragmatic about how this helped the patients and department to function, logically explaining the purpose of having a triage process:

[You] check in and assess the problem with the triage nurse, then make an assumption whether it needs immediate attention – [it's a] process of severity (42 year old ♂ carpenter).

...if [it's] urgent and in pain (severe pain) then you get fast tracked to see a doctor (22 year old ♀ student).

[You are] seen as soon as they can get to you (51 year old ♀ storeperson).

A small number of patients at **The Townsville Hospital Emergency Department** (herein known as **Townsville ED**) anticipated some process of prioritisation and acknowledged that not all patients' conditions are equal, and there needed to be a "basic assessment to assess urgency" (TP39):

[You] determine who should be seen, and immediate care should be given to those who need it (25 year old ♀ occupational therapist).

Patients at the Townsville ED expected to have emergency department staff attend to them straight away and were less likely to describe the triage processes as a necessary feature of the emergency system. They believed that presenting to the emergency department in the first instance warranted immediate attention, evidenced by the repeated use of terms such as 'ASAP', 'immediately' and 'straight away'.

Question 6: *Please list what you think should happen when you go to an emergency department.*

Get seen to by a doctor immediately upon arrival (19 year old ♀ legal secretary).

Get treatment as soon as possible, regardless of the situation ... (20 year old ♂ student).

Get treated ASAP... (22 year old ♀ hospitality worker).

Get the treatment you need straight away. . . (23 year old ♀ office manager).

In both cases, being seen immediately was a desirable quality to prevent inconvenience to the patients. However, one Austin ED patient noted that seeing people quickly had advantages for the emergency department itself: “. . . [they] give you assessment as quick as possible [because] it’s in their interest to get you out on the circuit” (AP25).

Waiting was one of the most critical and criticised parts of attending the emergency department, so much so that how the patients reacted to the waiting process influenced their overall perception of the emergency department experience. For Austin ED patients, this meant that “. . . you are seen in an appropriate timeframe [and] you are not waiting on trolleys for a long time” (AP15). As one woman recalled, the delay between preliminary examination and treatment had a big effect on her pain levels and function:

[You should] get help straight away instead of waiting around for hours. [I have been] diagnosed and x-rayed but I am still waiting to have my shoulder [put] back in! (74 year old ♀ retiree).

Many Townsville ED patients were also irate about the waiting time. Long waits in the department were a symptom of a perceived flaw in the system. One woman quipped, “. . .fast track should be fast track! (TP12)” Several patients believed overloaded staff was the underlying systemic flaw causing excessive waiting times:

The staff always seem too busy and you lie there for ages without being seen (23 year old ♀ office manager).

[They need] more staff because they are always busy. I find that if you are required to be admitted there is a long waiting list – the area is never big enough to cater for patients (68 year old ♂ retiree).

Although a relationship between busy staff and waiting times was also cited by Austin ED patients, a small number argued that the waiting process was beyond the emergency department staff’s control and needed to be tolerated as such.

Question 7: *In your opinion, how could the emergency department be improved?*

Due to the number of patients it is hard to reduce the waiting time, but this would be an improvement (42 year old ♂ sheet metal worker).

I can’t fault them [the ED staff], but you do have to sit sometimes for hours, which is not good (66 year old ♂ retiree)

6.3.2 Interacting with multiple health professionals

Attending an emergency department conjured expectations of certain health professionals who should be present in such an environment. The emergency department was perceived to

be *medicine's domain*. Patients expected doctors to assume primary responsibility for all assessments and treatments provided:

[I expect to] get feedback about what's going on from the doctor (38 year old ♂ aircraft maintenance engineer).

[I expect] medical review and treatment (50 year old ♀ laboratory technician).

[I expect] a doctor attending, not an RN (32 year old ♀ home duties)

While there was an overwhelming expectation that patients should be attended to and managed by a doctor, the role of *ambulance officers* was also anticipated, particularly among elderly Townsville ED patients:

I explain everything to the ambulance officers (61 year old ♂ retiree).

[In ED] I expect to be attended to by ambulance (90 year old ♂ retiree).

Consistent with the researcher's prior observations and conceptual drawings of Townsville's ED (Figure 22), the ambulance service routinely penetrated the emergency department boundary, linking patients in the community with the expertise provided in the confines of the department. In particular, a substantial number of elderly patients were brought in by ambulance or were transferred to other private facilities by the medical transport service.

Austin and Townsville ED patients were less inclined to locate the *nurses'* role away from the initial triage bay into working the emergency department floor. Both cohorts described seeing the nurses as an initial point of contact within the emergency system, but then assumed doctors would take over control of the patients:

The nurse should assess the patient...the doctor should then reassess and plan a programme for the patient to be treated (21 year old ♀ radiographer).

Check with the triage nurse (very good assessment); [then] I expect to see a doctor (62 year old ♂ operations manager).

See a triage nurse about the problem; see a doctor to review the condition (31 year old ♀ home duties).

Report to an obvious desk or window; placed in a sectioned place [sic]. Seen to be a triage person immediately (if serious) [and] examined as soon as possible by a doctor (66 year old ♂ retiree).

Both cases offered limited insight into the specific roles of the health professionals, but many expected to interact with multiple staff as part of being in the emergency system. This stemmed from their experience of the step-by-step process involving being categorised, assessed and treated, and could be conceptually illustrated as such (Figure 26).

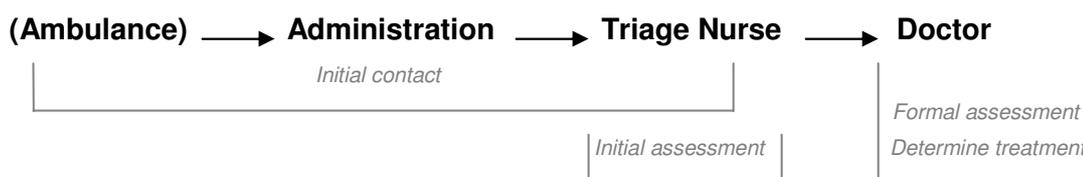


Figure 26: Conceptual process of emergency care

When asked to reflect on how to improve the emergency department system, both cases saw *increasing staffing levels* as a primary solution, particularly for the issue of waiting. For the Townsville cohort, responses ranged from the emphatic: “Staffing levels...promptness to respond...no 4-hour waits...staffing levels – the repetition here is intentional” (TP4); to suggestions that “possibly more staff [would help] because they are always busy. I find that if you are required to be admitted there is a long waiting list...maybe trainees could help the overloaded staff?” (TP11). One patient proposed that to do this the emergency department should have “a few doctors for minor injuries” (TP19).

Patients in Townsville’s ED believed improving staffing levels would relieve the workload burden on current staff. It would help staff “so they don’t have to do double shifts” (TP32). As one patient argued, “the current system seems to work but I guess more money and more staff would help when things get busy” (TP27). Austin ED patients also advocated for more emergency staff but did not articulate why this would help the system. Some speculated that more staff would help “for quicker treatment” (AP26), while others suggested that more staff may improve patients’ welfare, for instance, “more staff [are needed] to tend to those in most pain (easier on others)” (AP32).

6.3.3 Communication’s influence on care

Information being effectively conveyed to patients was one of the most important expectations of attending the emergency department. This influenced both cases’ perceptions of the quality of care they received. Communication between Austin ED patients and staff moved along a *continuum of care*, where a patient needed to “be informed and kept informed throughout [the] stay” (AP9). It was very important for patients to “[get] information regarding your condition and management plan [and] regular updates and timeline for assessment and treatment” (AP18). Patients expected features of their care to be communicated intermittently, and regardless of how insignificant details were they appreciated being kept aware of their situation. It helped to reduce the feeling of ‘waiting’, either in the hospital bed or in the waiting room and made them feel more valued.

Patients at the Townsville ED were vocal about the quality of communication provided and considered it a major contributor to their perceived satisfaction with care. They believed inadequate communication occurred when staff denied patients essential information, which in turn caused poor staff-patient rapport. As one elderly patient described, it was “important that [staff] go by what you say” (TP13). Ideally, patients would “be fully informed at all times (remove fear of the unknown)” (TP4). Patients valued staff communicating the truth about their medical situation and wanted as many details as possible.

[I expect] an explanation (honest) of outcome and treatment (65 year old ♂ nurse).

[I expect to be] told more what they think is wrong (29 year old ♀ cleaner).

People should be told what is going on and why they are being treated (25 year old ♀ occupational therapist).

Many patients at Townsville’s ED interpreted being denied honest information as the result of staff working too hard and being too busy to care. Some patients felt that this was being taken out on them unfairly. One patient suggested, “doctors and nurses need to be more understanding and kinder” (TP37). Another patient argued that “customer service...does not exist. Patients [need to be] informed of progress (not held wondering what’s happening)” (TP22). Several patients felt that the basics of communication were not being met. When asked what *should* happen, it was suggested that staff take an active interest in patients’ welfare, at the very least on a superficial level:

Not just ignore people...good communication (48 year old ♂ plant operator).

Triage staff [should] seem more caring (28 year old ♀ real estate agent).

Staff introducing themselves to patients (49 year old ♀ residential care officer).

The patients at the Austin ED raised similar concerns, but to a lesser extent. One recommended that “you should be seen as quickly as possible [and] you should be treated thoroughly, not brushed off” (AP38). Another felt that “everyone should be caring” (AP5). Both Austin and Townsville ED patients anticipated “clear communication between doctors and nurses” (AP34) because this could lead to “more one-on-one time [and] not being asked the same thing” (TP10). Communication between staff and patients, and staff with each other was a logical strategy to reduce the chances of repeating assessments and improving the streamlining of patient care, making the system more efficient.

Townsville ED patients described the importance of information being conveyed to family and friends, “to allow relative and family contact ASAP” (TP34), whereas patients at the Austin ED discussed this minimally:

Patients should be seen in accordance with their injury (worst=first) [and an] explanation to family and friends with what's happening (25 year old ♂ soldier).

[There should be] better communication with the family if you come in by ambulance (46 year old ♀ unemployed).

Townsville and Austin ED patients confirmed the validity of previous emergency department research, which showed communication to be a central component of the traditional physician-patient relationship (Watt et al., 2005; Wellstood et al., 2005). High levels of interpersonal communication displayed by emergency staff towards patients strongly correlated with patient-perceived satisfaction with emergency care (Watt et al., 2005; Wellstood et al., 2005). Gordon (2007) identified that poor conveyance of information to patients and their families compounded feelings of isolation and fear, negatively influencing their emergency stay.

6.3.4 Physical structure

The physical layout and structure of the emergency department was an impediment to the patient journey. When asked about improving the emergency department, many patients in both cases simply wrote “more beds”. Several patients at the Austin ED would have preferred greater patient comfort to be incorporated into the department’s physical structure.

Question 7: *In your opinion, how could the emergency department be improved?*

Be clean and have good seating (42 year old ♂ medical orderly).

More comfortable chairs and beds to lie on (30 year old ♂ carpenter).

Comfortable waiting seats (21 year old ♀ occupation unknown).

Patients made as comfortable as possible (66 year old ♂ retiree).

Although the Austin patient cohort idealised improved comfort, they did not offer any example of how this detracted from their present emergency department experience. In contrast, patients at Townsville’s ED pinpointed what the issues were with the physical layout and how this impacted negatively on their hospital stay. For instance, one man complained that “the area is never big enough to cater for patients” (TP11), while a woman reflected on a previous encounter she felt was crowded and unhygienic, influencing her perception of the department’s physical structure:

This time has been good, but last time I was one of three patients to one emergency room bay next to the basin where medical staff washed their hands – very unhygienic and uncomfortable (39 year old ♀ inquiry agent).

It must be noted that the Austin ED moved to brand new facilities 6 months prior to the researcher undertaking formal data collection. The layout and resources reflected some of the most up-to-date building plans at the time of this research. The Townsville ED, although still a modern facility, was built approximately 7 years ago and is not as recent as that of the Austin Hospital. However, patients in both cases discussed the influence of the physical structure with little regard for how modern the facility was. Thus, no one facility was at a distinct advantage over the other when it came to criticism about the physical structure.

6.3.5 “I wouldn’t have the temerity to even comment” – satisfaction with service quality

Just over a quarter of the Austin ED patients (N=12) and exactly one quarter of the Townsville patients (N=10) were satisfied with current emergency department operations. For a small number of patients, particularly the elderly, satisfaction with the department stemmed from loyalty towards the doctors and nurses working there:

I think they really cover it well here; they do everything for you – check for allergies – they don’t miss a beat (61 year old ♂ retiree).

I wouldn’t have the temerity to even comment – they do a wonderful job, full stop! (84 year old ♂ retiree).

Several Townsville ED patients reported a lack of familiarity with the emergency system, meaning they were unsure what to expect and therefore felt unqualified to make recommendations for system improvements. For example, one woman described that, “I have never been to emergency before this and they have been really quick and helpful” (TP3), and one man felt that “as this is my first visit, I was happy with the treatment” (TP25). A patient who ordinarily worked as a registered nurse mused that despite his professional experience it was difficult for him to recommend changes. He was able to separate his experience as a patient from his professional experience; he did not let this influence his opinion of the emergency system:

I have very little experience as a patient in ED and my care has been efficient and quick, that it is difficult for me to list improvements necessary at this time (65 year old ♂ nurse).

Patients attending the Austin ED were more likely to comment on positive experiences with service delivery, even if they had attended the department in the past. One man presented to the Austin ED four times prior to this occasion, and still believed that “the emergency department does not need to be improved” (AP4). A female retiree who had attended twice before agreed, noting that “I have no suggestions; the times that I have been here have been faultless” (AP21). Some patients, despite being supportive and satisfied with the current system, still reflected on the negative impact of service delivery inefficiencies such as

excessive waiting times. They were reluctant, however, to be seen to lay blame on any group or individual specifically:

I don't know that you can avoid the things that are irritating – they are very nice here (81 year old ♀ retiree).

In my opinion the Austin Emergency was fantastic, [but] from past experience I would say that blood results etc could be quicker (31 year old ♀ facility manager).

In a review of qualitative emergency department literature, Gordon, Sheppard and Anaf (2008) discovered that, like the Austin ED patients in this study, many people attending emergency departments were careful not to be seen to lay blame against emergency staff. Patients were more likely to direct criticism towards higher management, politicians and other parties who were disconnected from the 'ground' through fear of antagonising doctors and nurses, which could, in turn, compromise the care they received (Gordon et al., 2008). However, the present study offers no indication that the patients at either case were 'fearful' of speaking out about the current state of the emergency system. Re-interpreting the findings on satisfaction with service quality implies that three-quarters of patients surveyed in both cases were, in fact, dissatisfied with their current experience and had little problem communicating their discontent.

In summary, from the patients' perspective, emergency department processes requiring improvement involved lengthy waiting times, poor physical layout, comfort and lack of detailed staff communication to themselves and their families. Patients' expectations acted as an important precursor to how they described ED physiotherapy's contribution to the system, as these framed the context of their satisfaction or dissatisfaction with service quality.

6.4 Perceptions of physiotherapy and emergency department physiotherapy

6.4.1 General features of physiotherapy

The survey was structured to offer insight into the general role of physiotherapy and how patients perceived this to vary (if at all) from the role of ED physiotherapy. The dominant questions from which patients' perceptions were explored were:

Question 9: In your opinion, what is the role of the physiotherapist generally? What jobs and tasks do they do?

Question 11: In the emergency department, what sort of patients do you think a physiotherapist would see, and why?

Several facets of general physiotherapy did not translate easily to the emergency department

environment. This section outlines core traits of general physiotherapy practice as identified by participants, but traits which were not described as being used in the more novel ‘emergency’ context.

6.4.1.1 Hands-on contact

Physiotherapy’s identity was strongly correlated with *hands-on contact* in various forms. Both cases equally felt that *touch*, *massage* and *manipulation* were central to physiotherapy management:

Basically they work on physical injuries [but] the role does vary – they are manipulators (25 year old ♀ occupational therapist).

[They] massage your back, give you attention – treat you as best they can (90 year old ♂ retiree).

[Physiotherapists] manipulate muscles or joints (62 year old ♂ operations manager).

Physiotherapy interventions were conceptualised through descriptors that conveyed a sense of relieving, placing and releasing parts of the body through hands-on contact:

They massage – this is great for relief. They see a range of patients with a muscular disability (62 year old ♂ operations manager).

[They] release pain, tension, muscular pain in your body, especially the back area (31 year old ♀ home duties).

[They] relieve pain and place muscles back into correct positions (25 year old ♂ taxi driver).

An early investigation of patient perceptions of physiotherapy, conducted by Sheppard (1994), uncovered public perception of physiotherapeutic treatment to be significantly linked to the core competency of musculoskeletal management. Hands-on contact was a staple part of intervention (Sheppard, 1994). A paucity of further research exploring patients’ perceptions of physiotherapy indicates Sheppard’s study, in spite of its age, is still an appropriate theoretical parallel for these findings. Patients equated hands-on contact as a primary physiotherapy strategy to lessen pain, realign the body and help bring about general physical relief (Sheppard, 1994).

6.4.1.2 Exercise therapy

Physiotherapists prescribing exercises in the emergency department was not seen as relevant in that environment, patients instead choosing to cite the role as a generic physiotherapy skill. This was particularly pertinent at the Austin ED, where patients described general

physiotherapy as focussing on exercise due to its perception of being a longer-term, detailed, progressive strategy:

[Helping] you to return your body's functions back to normal or as near as normal as possible. To provide you with activities and exercises to prevent further problems (53 year old ♂ nurse).

[Physiotherapy] teaches and informs patients about their condition by giving management plans for muscle strengthening (23 year old ♀ osteopath).

The Austin patient cohort recognised exercise therapy as a method to restore ‘normalcy’ in the patient; a way of ‘mending’ people and avoiding further complications or co-morbidity. As one patient noted, “they work on sore muscles and joints where they find the problem and find a way to prevent it or help it by exercises [and] stretches” (AP7). Patients at the Townsville ED recognised that physiotherapists had a reputation for prescribing exercises, but how this translated into actually helping the patient was unclear. For example, “I don’t know what a physiotherapist does . . . don’t they give you exercises when you have had an injury?” (TP13). The Townsville patient cohort proposed other generic descriptions of exercise therapy, including the physiotherapist dictating when and how to do them, typically in an outpatient environment:

[They] build up muscles, tell them what to do to go home [and] exercises (46 year old ♀ unemployed).

[They] rehabilitate – using massage/exercises applicable to injury (29 year old ♂ soldier).

Using exercise was cited as something that occurred ‘after the fact’ of injury and as a way of building up the body to restore function. Given that exercises were recognised as a post-acute strategy, it may be hypothesised that the patients were reluctant to see it as a necessary strategy in an environment as acute as the emergency department, which they had previously criticised as having too many long waits and staff that did not provide enough description about their conditions, let alone spending time explaining the requirements for exercises.

6.4.1.3 Comfort and support

Comfort and support of patients emerged as a primary physiotherapy role for the Austin patient cohort; more than double that of the Townsville group. Physiotherapy as a profession guided patients through their ‘journey’ but was not initially thought to be a role within the emergency environment. There was a strong sense that patients could ‘give over’ autonomy related to their health and work in a partnership with the physiotherapist. One retired man summarised this by saying, in general, “they help me when I can’t help myself” (AP24). This was supported by another patient, who described the role of physiotherapy as “rehabilitating patients...[and] be a friend” (AP40).

Being a ‘friend’ and working in partnership with patients was also part of the process of physiotherapy strengthening the individual to overcome the adversity of his or her condition by instilling self-confidence:

[Physiotherapists] help people to develop their movement, and help gaining confidence (21 year old ♀ occupation unknown).

[Physiotherapists] give you confidence and make you feel that after a painful experience you get back to your best (81 year old ♀ retiree).

For other patients at the Austin ED, a primary physiotherapy role was the presence of a clinician to guide them through the health system, offer help and float ideas with patients:

[They] encourage me, liaise with my GP, suggest different treatments [and are] sympathetic (44 year old ♀ project manager).

Help you with whatever you have wrong; to be there when they can (51 year old ♀ storeperson).

Offering comfort and support was not readily described by patients at the Townsville ED. These patients tended to think of support in much more clinical terms, as a by-product of locating the problem and working towards making it better:

They pin point the problem areas and assist in making them [the patients] feel better (22 year old ♂ fitter).

[Physiotherapists] help make patients comfortable. Patients under stress, [they] put at ease (74 year old ♀ retiree).

Across both cases, comfort and support moved along a continuum from pragmatic physical relief to emotional reassurance. Interestingly, physiotherapy in the emergency department has been strongly shown to be of great comfort to patients by explaining information (Kempson, 1996), discussing the progression of illness and injury (Kempson, 1996; McClellan et al., 2006), and offering a supportive ear (Gordon, 2007). Patients in the present research described the broad features of comfort and support as something they would expect from a general physiotherapy practitioner, rather than an ED physiotherapist. However, later analysis revealed that separate sub-sections of this theme were relevant in the context of the emergency environment (section 6.5).

6.4.1.4 A process of educating and communicating

An important general physiotherapy trait as perceived by Austin ED patients was the responsibility to educate the patients about their conditions and treatment options, and liaise with other health professionals as appropriate. There was an expectation that physiotherapists would “provide advice” (AP35) with a view to “teaching and informing patients about their condition. . .” (AP18) For example, physiotherapists “help you in teaching you techniques to breathe or walk better” (AP27). Part of the process of educating

and communicating meant acting as a bridge between multidisciplinary health professionals. Patients recognised that physiotherapy was likely to be just one part of a bigger network of helpers in the health system:

[The role of physiotherapy is] to advise, guide and assist in the rehab of injuries and illness. To treat patients and liaise with other medical staff and follow-up (60 year old ♀ home duties).

[The role of physiotherapy is] to help patients with musculoskeletal problems, respiratory problems, or those who require rehabilitation per help mobilising, as part of a multidisciplinary team (26 year old ♀ student).

One patient, a 79 year old woman, initially thought that the only role of physiotherapy was to “. . . find out a lot of things they can pass on to the doctor” (AP19). However, she later reflected on the importance of the patient–doctor–physiotherapist network, conceding that:

...how they [physiotherapists] communicate with the doctor makes the care better (79 year old ♀ retiree).

Education, much like the theme of communication, is historically a key determinant of patient satisfaction (Wellstood et al., 2005). The speed and quality of communication and education between health professionals was seen to consistently reflect higher levels of satisfaction with emergency system operations (Watt et al., 2005). The Austin patient cohort expected physiotherapists in general to display a strong ability to explain conditions and treatments, and effectively communicate this to other health professionals as needed. The Townsville group made no mention of physiotherapy’s role in education and communication. The meaningfulness of this theme to the Townsville sector remains inconclusive: it may have equally reflected an assumed part of a physiotherapist’s role that did not require description in the survey, or a lack of understanding among the Townsville patients as to how education was involved in general physiotherapy management.

6.4.2 Common practice: transferring physiotherapy into the emergency department

The patients identified six key physiotherapy domains that were an expected role of general physiotherapy and also translated into an emergency department environment. These were common public conceptions about physiotherapy practice merged with clinical areas that appropriately ‘fitted’ with the idea of what an acute emergency environment would manage.

6.4.2.1 Sports injury management

It has been argued that Australia has an unparalleled consciousness of the role of sport in society (Bruckner & Khan, 2007), and physiotherapy’s identity has been strongly linked with the sporting culture (Sheppard, 1994). Patients saw physiotherapy’s role as managing

sporting injuries separate to other musculoskeletal conditions. For patients at the Townsville ED, it was a role and expectation of general physiotherapy to manage patients with sports injuries:

[Physiotherapists] speed up the recovery rate generally in sports-related injuries (18 year old ♀ occupation unknown).

[They] help rehabilitation after accidents [and] sporting injuries (46 year old ♀ unemployed).

Given the ‘accidental’ and ‘acute’ connotations affiliated with sports injuries, it was not surprising the Townsville patient cohort saw physiotherapy management of sporting injuries translate into the emergency department setting. For instance, one patient thought that physiotherapists would manage “people with bad sprains – footballers, people with sore muscles” (TP13), and another saw it as likely that physiotherapists would treat “people with torn ligaments from sport” (TP26). The Austin patient cohort also described sports-specific injuries as a treatment role of the ED physiotherapist. In contrast to the Townsville patients, however, they did not describe managing sporting injuries as a general physiotherapy responsibility:

[Emergency department physiotherapists] see people with sports injuries or strained muscles, because they are specifically trained in that area (30 year old ♂ carpenter).

[Emergency department physiotherapists see] a sporting person – [they are] most likely to suffer body/muscle/joint injuries (23 year old ♂ insurance underwriter).

Austin ED patients perceived physiotherapy’s ‘expertise’ and training in musculoskeletal management as most appropriate for overseeing sports injuries in the emergency setting. Some also singled out Australian Rules football (AFL) as a likely cause of sporting injuries that would require a visit to the emergency department and subsequent management by the ED physiotherapist.

Question 11: *In the emergency department, what sort of patients do you think a physiotherapist would see, and why?*

Sports injuries and football (AFL) – the whole gamut – knees, arms, legs, backs... (84 year old ♂ retiree).

Sports injuries [like] those that play various sports such as AFL football... (31 year old ♀ home duties).

In summary, both Austin and Townsville ED patients saw a role for sports injury management by ED physiotherapists, strongly related to the relationship of the next theme,

musculoskeletal management, and the physicality expected from being involved in sport.

6.4.2.2 Musculoskeletal management

The biggest responsibility of physiotherapy both in general and in the emergency department environment was *musculoskeletal rehabilitation*. This was the dominant physiotherapy domain because clinicians were seen to “help people recover from injuries/problems by working on the problem or wasted away muscle group to achieve the best outcome for the patient” (AP8). Further, physiotherapists “rehabilitate any muscle or joint displacement” (TP5) and “treat muscular injuries...[and]...help with muscle strength after operations” (TP17). Part of musculoskeletal physiotherapy involved evaluating the patient with a view to offering treatment.

Assessing patients with shoulder, arms, back and leg muscle injuries – relieve pain and place muscles back into the correct position (25 year old ♂ taxi driver).

They assist you in identifying ways to improve musculoskeletal problems (44 year old ♀ project manager).

Both cases articulated that an ED physiotherapist should attend to specific muscle and joint problems, with this delineating the physiotherapy role from that of other emergency staff. Physiotherapists were consistently illustrated to be musculoskeletal experts:

[Emergency department physiotherapists see] patients coming in with injuries that are muscular i.e: the ankle is not broken so the physiotherapist may be able to help reduce the pain or prevent the injury occurring again. Also help them to move after they leave the ED (21 year old ♀ radiographer).

[Emergency department physiotherapists] only see patients with a muscular or joint related injury – that is their field of expertise (62 year old ♂ operations manager).

[Emergency department physiotherapists see] whiplash, any muscular or tendon-type injuries; sprains (54 year old ♀ client services officer).

The Austin ED patients supported Townsville’s views, offering even more particular descriptions of likely conditions managed, including:

...soft tissue injuries, ligament injuries, knocks and sprains – things that do not show up on x-ray... (66 year old ♂ retiree).

Musculoskeletal pain problems, for example, sciatica, low back pain, spinal referral anterior chest pain... (23 year old ♀ osteopath).

...soft tissue injuries maybe – that’s the only type of patients I would think a physio would see in ED (42 year old ♂ plumber).

They could have sore muscles, torn muscles, sore or dislocated joints... (20 year old ♂ carpenter).

Both cases’ descriptions of musculoskeletal management reflected the caseloads managed in

the ED physiotherapy literature (Jibuike et al., 2003; Kempson, 1996; McClellan et al., 2006; Richardson et al., 2005). They were also consistent with Sheppard's study (1994), who argued that the public strongly identified physiotherapy's contribution to musculoskeletal care. Subsequent research conducted by Lee and Sheppard (1998) exploring medical students' perceptions of physiotherapy also revealed an overwhelming (95%) recognition of physiotherapy's role in musculoskeletal management. Therefore, the dominance of the musculoskeletal theme among emergency patients confirmed the limited literature on other populations' views of physiotherapy and the descriptions of ED physiotherapy roles nationally (Anaf & Sheppard, 2007a, 2007c; Brandis et al., 1998; Taylor et al., 2004) and internationally.

6.4.2.3 Rehabilitation and mobility

Many patients used the generic term 'rehabilitation' to convey a sense of *helping, expediting* recovery and conceptualising the physiotherapist as a 'doer', sympathetic to previous themes such as hands-on contact. The Austin patient cohort, more-so than Townsville's patients, repeatedly described rehabilitation as a general physiotherapy role:

They attend to rehabilitation in hospital – surgery, anything that needs body movement, breathing, broken bones, heart conditions... (42 year old ♂ plumber).

[Physiotherapists] help patients with musculoskeletal problems, respiratory problems, or [those] who require rehabilitation or mobilising (26 year old ♀ student).

[Physiotherapists] assess physical injuries and provide rehabilitation (23 year old ♂ insurance underwriter).

'Rehabilitation' also provided an overarching description for treatment, particularly by patients who wanted to convey that physiotherapy provides goal-oriented interventions, in the sense of "rehab - help people to do things again like walk, use their hands . . ." (AP6). A small number of patients at the Townsville ED supported this perception of physiotherapy being a goal-oriented profession in general practice:

[A physiotherapist] expedites body mobility (49 year old ♀ residential care officer).

...After an accident they help you get back on to your feet and back to work (48 year old ♂ plant operator).

Only the Austin ED patients described ED physiotherapy as having a role in patients' general rehabilitation and mobility, specifically to encourage patient ambulation in the emergency department. For example:

[Emergency department physiotherapists] manage patients who need encouragement, assessment [and] assistance with ambulation (53 year old ♂ nurse).

[Emergency department physiotherapists manage] people that really need care – people that can't manage to walk, use their arms, need to exercise to get better... (42 year old ♂ unemployed).

The Austin patient cohort did not articulate *why* patients may require help with ambulation in the emergency department. Rather, the ED physiotherapist's role was portrayed as a general contribution to the service for “people who may have trouble walking...to help people to be able to walk properly” (AP6). Another patient speculated that ED physiotherapist would help “...mainly people with bone problems who have been in an accident which they can not move around normal by themself [sic]” (AP36). Ultimately, patients, particularly at the Austin Hospital, knew that mobility was important but did not articulate why it was important for patient well-being. They described physiotherapy as the most appropriate profession to assist patient ambulation and mobility.

6.4.2.4 Pain management

Helping patients to manage their pain levels was cited extensively by the Townsville ED patients as a general physiotherapy responsibility, ED physiotherapy role and as an overall expectation of the emergency department system. Austin ED patients did not describe physiotherapy's contribution to pain management at this point in the same way. When brought to the emergency department, Townsville patients wanted, “if needed, any pain relief [or] medications” (TP8), to “have pain removed ASAP” (TP9) and to “be placed in beds when in pain” (TP37). The physiotherapy profession offered another dimension to pain management. Physiotherapists could clinically reason different pain relief strategies to suit different patients' needs:

I think they should assess the patients' needs and pain thresholds and understand that one form of treatment and physical pain will not work for all patients (21 year old ♀ student).

[The role of physiotherapy is] to give you confidence and make you feel that after a painful experience you get back to your best... (81 year old ♀ retiree).

A general role of physiotherapy was “to alleviate muscular aches and pains” (TP34), complementary to musculoskeletal management. Combining pain management with musculoskeletal management was a strategy to “help people move without pain” (TP27) and “...to ease pain and get limbs moving freely again” (AP11). However, only the Townsville patients believed that pain management would translate into a key role in the emergency department context, despite patients never having been treated by a full-time ED

physiotherapist before. One patient recognised that pain was a changing entity, with physiotherapists having the clinical knowledge to manage it in the emergency department:

[Emergency department physiotherapists could] massage, help the pain; [it's] someone who knows the ins and outs of pain (46 year old ♀ unemployed).

Others believed that physiotherapy would benefit the emergency setting because pain was often a symptom of an otherwise minor condition, helping people to be treated more efficiently and discharged earlier:

...the physiotherapist may be able to help reduce the pain or prevent the injury occurring again. Also help them to move after they leave the ED (21 year old ♀ radiographer).

[An emergency department physiotherapist would see] anybody with aches and pains, minor problems... (90 year old ♂ retiree).

6.4.2.5 Respiratory support and management

Physiotherapy or ED physiotherapy's role in providing respiratory support was important to patients at the Austin ED. No conclusive evidence could be drawn as to why the Townsville patients did not identify respiratory care as a physiotherapy or ED physiotherapy role, however one prominent theory exists. The vast difference in weather patterns between Townsville and Melbourne may have led to different reflections on the prevalence and management of chest diseases. A case variation was the tropical and temperate climates. General physiotherapy, according to some Austin patients, offered treatment for “asthma etc and management of chronic diseases, that is, COPD” (AP21). Physiotherapy also “...helps you in teaching you techniques to breathe or walk better” (AP27) and they additionally “...help clear lungs” (AP35). This easily translated into an emergency department environment in Melbourne, as impaired breathing was strongly perceived to be an emergency situation:

[Emergency department physiotherapists] treat injuries that inhibit breathing (i.e. chest injuries) to encourage and assess adequate breathing to prevent infections (53 year old ♂ nurse).

I can only think it [the conditions] would be respiratory problems – get you to control your breathing (81 year old ♀ retiree).

Emergency department physiotherapists would see] someone with breathing issues (38 year old ♀ home duties).

[Emergency department physiotherapists treat] chest infections and asthma... (50 year old ♀ laboratory technician).

A final thought offered by a medical student who was also an Austin ED patient was that ED physiotherapists might also attend to “cystic fibrosis patients...for advice” (AP35). Patient perceptions of respiratory management ranged from chronic disease assistance and advice to

treating acute musculoskeletal injuries that inhibit effective breathing.

6.4.2.6 Elderly care and falls interventions

The final dual general and ED physiotherapy role was addressing the needs of the elderly and those prone to falls. This theme was most strongly identified by the Austin ED patients, but both cases offered a noticeable lack of insight as to *why* physiotherapy might be useful to assist the elderly. One woman, a 22 year old student, explained that “the role of the physiotherapist is to provide help for the elderly, help for anyone that requires help in some shape or form” (AP6). This was particularly important because according to several patients the elderly were notable consumers of emergency services:

[Emergency department physiotherapists see] patients of all types from back problems to fractures, the elderly, and anyone else that they think they could be of benefit to... (29 year old ♂ patient services assistant).

[Emergency department physiotherapists see] elderly patients – to assess mobility, e.g. before allowing patients to go home (26 year old ♀ student).

For someone who has a fall and hasn't broken any bones, physio may help... (42 year old ♂ sheetmetal worker).

[Emergency department physiotherapists treat] people having trouble with movement, older people... (44 year old ♀ project manager).

A small number of patients at the Townsville ED also hypothesised that management of the elderly and falls prevention would be a logical physiotherapy area. One patient, a 65 year old registered nurse, thought ED physiotherapists would see “frail persons needing therapy” (TP6). Another woman, a 29 year old cleaner, supported this. She felt that ED physiotherapists naturally managed “the elderly that have fallen [because they are] able to help” (TP10). In summary, it was the Austin patient cohort who most readily described the management of elderly patients and those who were a falls risk as a key physiotherapy responsibility.

6.4.3 Responsibilities specific to emergency department physiotherapy

The final two themes of section 6.4 emerged when patients were asked:

Question 11: *In the emergency department, what sort of patients do you think a physiotherapist would see, and why?*

Managing orthopaedic conditions and accident victims were described as ED physiotherapy roles but did not receive attention in any responses prior to this question. Therefore, orthopaedics and accident management were a specific ED physiotherapy skill set, as perceived by patients.

6.4.3.1 Orthopaedic intervention

Management of fractures and dislocations comprised a big expectation of ED physiotherapy practice. Patients correlated it to the nature and expectations of the emergency department environment. An Austin ED patient felt that ED physiotherapy's role in complex orthopaedic management deserved special recognition. She vehemently considered ED physiotherapists to be orthopaedic experts:

[The emergency department physiotherapist treats]...broken arms, popped out shoulders, dislocation of all sorts of things. Physios have – [they] know what they are doing whereas the doctors don't in that area. It makes me angry that the doctors don't appreciate the specialisation of physios (74 year old ♀ retiree).

Several other patients at the Austin ED agreed that orthopaedics – “injuries; trauma, bone [injuries], fractures” (AP10) - was a physiotherapy domain. The injurious nature of orthopaedic conditions, like broken bones from accidents, meant ED physiotherapists were required to offer “...immediate treatment, assessment of the situation... [and] ...know how quickly rehabilitation can be proceeded” (AP28).

Several patients in Townsville's ED speculated that ED physiotherapy's role in managing orthopaedic conditions would likely occur because of their involvement in muscular problems and offering support and comfort to patients. For example:

Question 11: *In the emergency department, what sort of patients do you think a physiotherapist would see, and why?*

People recovering with broken bones [to] help strengthen muscles... (22 year old ♂ fitter).

People that have injuries with bones, muscles and tendons... (22 year old ♀ communications officer).

Anybody with strains, fractures, disabilities so as to reassure them that help is available... (68 year old ♂ retiree).

Emergency department physiotherapy's care of orthopaedic patients was linked to the expertise in musculoskeletal management and patient comfort in both cases. The association between bones, muscles, tendons and fractures, coupled with the image of accidents and trauma, were a logical connection to physiotherapy's emergency department role.

6.4.3.2 Care for accident victims

Images of the emergency department environment inspired perceptions of physiotherapists treating accident victims in their acute stage. No participants in either case previously

identified treating victims of accidents as a general physiotherapy domain. For the Townsville patient cohort, this was a particularly obvious role. Four patients simply described ED physiotherapists as treating people in “motor vehicle accidents”. Two patients further articulated how ED physiotherapy could help:

[Emergency department physiotherapists see] car accidents, accidents in general – to assess the patients, treatment may be more effectively started in the ED... (22 year old ♀ nurse).

[Emergency department physiotherapists see] patients who have come in after accidents – cause they may have a better idea of the injury (29 year old ♀ cleaner).

Patients at the Austin ED reflected on the spectrum of potential accidents, including “people who have had car accidents, falls, work accidents” (AP7) and “accidents [like] MVA, industrial, sports injuries...” (AP13). While car accidents were thought to be the most likely cause of injury, a small number of patients in both cases singled out workplace accidents as a secondary cause:

[Emergency department physiotherapists see] workplace injuries... (25 year old ♂ taxi driver).

[Emergency department physiotherapists see] those who have a work accident that may affect the back (31 year old ♀ home duties).

Accidents, such as workplace or car accidents, as a cause of patients’ physical problems have yet to be described as an ED physiotherapy role in the literature. Given that landmark studies such as Jibuikie et al. (2003), Richardson and colleagues (2005), McClellan et al. (2006), and Morris and Hawes (1996) only outline their findings in relation to clinical conditions (rather than causes), *accidents* emerged as a theme because of the expectation this would be an emergency role, rather than a physiotherapy role. Physiotherapy therefore adapted to the emergency department setting rather than modifying the environment to suit the profession’s skill base. Further, Townsville ED patients did not have the exposure to ED physiotherapy in the same way that Austin ED patients potentially did. Drawing on the role of an emergency department, rather than the role of physiotherapy, may have been easier for the Townsville patients to reflect on, hence the dominant description of accidents.

6.5 Emergency department physiotherapy’s influence on service delivery and quality of care

Greatest insight about physiotherapy’s influence on the emergency department system was extracted from the patients when they were asked to consider the following questions:

Question 12: *How do you think a physiotherapist could make the care you receive in the emergency department better or worse?*

Question 13: *How do you think physiotherapy in the emergency department will have helped someone to get back home, and why?*

These questions involved a way of thinking about physiotherapy and the emergency department in a broader health service-delivery framework with which patients were generally unfamiliar. While patients were willing to discuss problems with the emergency system under section 6.3, physiotherapy's contribution to the emergency system saw them draw on perceived assets of the physiotherapy profession and apply this to the previously described emergency department's service delivery inefficiencies. Eight core themes emerged about how physiotherapy influences service delivery and quality of care in the emergency department context.

6.5.1 Improving patient recovery

Both cases saw potential for ED physiotherapy to significantly *improve patient recovery*. The speed with which care and assessment were provided facilitated a crucial way to recovery:

They [emergency department physiotherapists] could help you recover quicker by implementing ways that could help with the pain, therefore making you feel better (22 year old ♂ fitter).

They could give you more immediate care with an injury to maybe improve your recovery (23 year old ♀ office manager).

If they gave advice [and] treatment to patients who have an injury, it may help speed up the process of recovery (28 year old ♀ real estate agent).

Diagnosed properly, recovery could be a lot quicker – better follow up care (74 year old ♀ retiree).

If a physio made instant relief or repair, moving posture or whatever, that's great – let's use them (42 year old ♂ plumber).

Reducing time in the emergency department and improving the speed of patient management were the biggest reasons that ED physiotherapy could help patients be discharged. Some of the Townsville patient cohort argued that more dedicated attention to the individual would have a reciprocal effect on their speed of recovery:

The sooner you get help, the sooner you can go home – get up and moving earlier – instead of leaving it 'til later and letting your body seize up... (25 year old ♂ soldier).

The quicker they cure their complaint – their muscle spasms – the better off they'll be; they can go home sooner (61 year old ♂ retiree).

If the muscle is repaired earlier, it will shorten the stay in hospital... (29 year old ♂ soldier).

It cuts down the time lapse between you being here and the treatment... (62 year old ♂ operations manager).

Patients from the Austin ED concurred, partly because physiotherapy had an appropriate skill set to facilitate a quicker recovery and partly due to the benefits to individuals from early clinical intervention:

Due to the nature of physiotherapy [it] will aid patients in getting home quicker due to their expertise in musculoskeletal ailments (23 year old ♀ osteopath).

Pains that a patient had once before could be helped now and this could mean some patients could be going home much sooner... (20 year old ♂ carpenter).

Physiotherapy also helped improve patient recovery by *giving advice* and *raising awareness about patients' problems*. Emergency department physiotherapy provided an important bridge between being diagnosed in the emergency department and working towards 'curing' the ailment:

You could be given info on the rehab process straight from the start and have a general idea of how long it will take to get the best results (29 year old ♂ patient services assistant).

By assessing the patients soon after arrival and knowing how to handle the situation... (60 year old ♀ retiree).

Further, physiotherapy in the emergency department improved patient recovery by *taking control of the situation*; monitoring patients' movements in the system and the clinical interventions they received:

[Emergency department physiotherapists] advise about the rehabilitation – they are 'fixers' (46 year old ♀ unemployed).

[They] understand the system...give diagnosis, treatment options; [the] step by step process [has] instilled confidence in physiotherapy's abilities (44 year old ♀ project manager).

[Emergency department physiotherapy is] someone specialised in the injuries I had...not wast[e] time going to places I didn't need to go (20 year old ♀ car detailer).

Patients at Townsville's ED were much more likely to link the improvement in patient recovery with allowing people to go home (ten as opposed to the Austin group's three). However, both cases demonstrated an equal understanding of physiotherapy improving recovery, seeing it as a favourable addition to the emergency department setting.

6.5.2 Peace of mind and reassurance

Physiotherapy improved quality of care in the emergency department by fostering *greater self-confidence* in patients through a combination of one-to-one contact and updating patients with health information. This proved to be equally important for both cases:

Constant updates, not left in the dark, [is] something positive. If you are updating them all the time the patient feels more important and is not feeling brushed aside (38 year old ♂ aircraft maintenance engineer).

I couldn't see it making it any worse – I suppose you talk to people – encouragement and sympathy helps (66 year old ♂ retiree).

Encouraging patients to improve their health and making them feel worthy of the time and attention spent with them *alleviated feelings of fear* and *apprehension* for some patients at the Townsville ED:

The main advantage [of emergency department physiotherapy] would be the patient's understanding of the problem and therefore less fear... (68 year old ♂ retiree).

[They] could give you the self-esteem you want – could let you know it is not as bad as you think after inspection... (48 year old ♂ plant operator).

An unanticipated finding was the number of men who articulated that peace of mind and emotional comfort during the emergency journey offer positive benefits. Rydman and colleagues (1997) explored patient satisfaction of a chest pain observation unit within an emergency department and male patients were found to be less satisfied with the perceived quality of health care than other generic populations, such as women or the elderly. The study implied that men felt overlooked about their health needs in the emergency setting, although specific reasons as to why this may be were not articulated. It was unclear in the present study if the findings indicated that men felt the emergency system overlooked their emotional needs, for example overestimating their feelings of control and self-esteem with regard to their condition, or whether this opinion was isolated only to those who were purposively sampled.

A sub-theme related to peace of mind and reassurance was *explanations and communication* from the ED physiotherapist. Some patients felt that greater discussion about their injury or illness encouraged them to be proactive in their own health management:

[Emergency department physiotherapy makes you] confident that you can do everything that they talk about – the physio says I can walk and they make me determined to walk again (82 year old ♂ retiree).

[It] gives you confidence when you know what's wrong and you get instructions on how best to help yourself – they are a great idea (66 year old ♂ retiree).

Physio can reassure the patients on how to get the injury better... (46 year old ♀ unemployed).

One woman commented that ED physiotherapy was appropriate to help people return home because “it would ... be better for spirits to be trying to get better rather than sitting around” (TP18). Arming patients with useful coping mechanisms via information and advice also had the benefit of reducing patient stress, which was facilitated by the ED physiotherapist creating “a positive state of mind, relieving pain with massage techniques, [and] reassurance” (TP38).

[Emergency department physiotherapy] would help them cope properly and put less stress on them and make their recovery a little easier for them (22 year old ♀ student).

The influence of stress on the patient’s journey and how physiotherapy reduced this was best described by an 82 year woman who attended the Austin ED. When first asked how ED physiotherapy would make the care she received better or worse, she documented that care would be better due to the combination of clinical knowledge and reassurance:

If it were a respiratory complaint, it would be of great assistance – better means of relaxation – usually they [the patients] are so tense – give guidelines for what positions would be comfortable for respiratory and acute pain (82 year old ♀ retiree).

However, when asked how this would in turn help a patient to return to the community from the emergency department, ED physiotherapy’s influence on the stress of patients – not physiotherapy’s clinical proficiency – guided her thought processes:

I can’t see that it [emergency department physiotherapy] is greatly helpful – if you show them positions to make them less stressed, relaxation will help a patient come back to earth a bit more... there could be some grounds for it (82 year old ♀ retiree).

Emergency department physiotherapy’s perceived clinical traits were complemented by ‘reassurance’ and other emotional skills; seen by both cases as a potent mix to improve the quality of emergency department care.

6.5.3 Enhancing professional role delineation

Only the Austin patient cohort described ED physiotherapy as influencing positive service delivery changes by improving professional role delineation. *Role substitution* emerged as a sub-theme when patients acknowledged that physiotherapy had similar clinical knowledge to the doctors and nurses. For example:

With soft tissue-type injury they can assess them, and send them home, without having a doctor to do it (42 year old ♂ plumber).

Some patients believed role substitution led to improved work conditions for the medical staff:

I think having a physiotherapist in emergency would help the doctors have more time to see others (51 year old ♀ storeperson).

They would free up doctors for other people, reducing waiting time. [They] could have a different treatment plan for some injuries... (30 year old ♂ carpenter).

A patient who was a nurse by trade felt the opportunity to have physiotherapists in the emergency department would not only improve time management for staff, but also enhance the quality of care delivered to the patients “by having the time to do all the things the nurses should be doing but haven’t got the time to do, and have been de-skilled in doing” (AP2). In this instance ED physiotherapy had the potential to reduce the pressure on nurses to re-skill in certain areas and still provide the same quality of care in the department.

Changes to *professional collaboration* within the department were also likely because of the physiotherapist “understanding the ‘system’ and liaising with the doctor” (AP30). Collaboration was related to having shared knowledge and professional competence to engage with other health professionals, and to practice physiotherapy autonomously:

[Emergency department physiotherapists] may have more time to thoroughly assess the problem and offer some really good, knowledgeable advice...they have specialist knowledge that other health care providers don’t have (26 year old ♀ student).

This opinion was not supported by other patients who associated the emergency department with being medicine’s domain. Some suggested that professional collaboration with ED physiotherapists would be dictated by doctors’ decisions made in the patient’s best interest:

If a person is that bad and they need physio they would be hospitalised and they would get it – that would be determined by the doctors (84 year old ♂ retiree).

Physiotherapy’s presence in the emergency department could change professional roles in the system. The majority of Austin ED patients considered this to have a positive influence on the workloads of other emergency staff, although a small number were still reluctant to have physiotherapy assume complete independence from doctors’ authority.

6.5.4 Improved clinical knowledge

Introducing physiotherapy into the emergency department skill mix had the potential to offer better clinical knowledge to certain medical situations. The Townsville patient cohort saw it as a likely influence on the quality of care. Firstly, some patients felt they could *trust* the interventions offered by a physiotherapist:

I have always found that the more specialists there are to treat a patient, the better the care the patient will receive. So physiotherapists can help the patients so they will make the care received better... (21 year old ♀ radiographer).

Better [using emergency department physiotherapists] – they offer a lot of expertise so it must be good for you (56 year old ♂ miner).

Trusting physiotherapists' clinical knowledge theoretically improved the quality of care because physiotherapy offered a *different perspective* on patients' problems. An additional clinical perspective was important to patients, judging by the use of key terms, including *understanding* and *holism*. Having physiotherapists in the emergency department was a positive idea in theory because they could “*treat the patient more holistically and not just the injury*” (TP32). Extra thoughts included:

Another set of eyes viewing the same problem, provide a different skill set in the ED [and] another method of treatment (54 year old ♀ client services officer).

They would have more of an understanding to move/assist patients – explain to patients what's ahead of them recovery-wise (25 year old ♂ soldier).

Varying perspectives about patients' situations benefited the patients only if there was effective *interdisciplinary liaison*, according to a small number of Austin ED patients. Communicating ideas about patient care to other health professionals was a key strategy to demonstrate physiotherapists' depths of clinical knowledge and competence:

How they communicate with the doctor makes the care better (79 year old ♀ retiree).

They have specialist knowledge that other health care providers don't have. They can work in conjunction with nurses/doctors to ensure the best possible care (26 year old ♀ student).

The topics of communication and knowledge were raised many times from within themes such as professional role delineation and offering patients peace of mind. It suggests that despite the numerous variations of themes in this research, ED physiotherapy's ability to communicate and offer accurate clinical knowledge about medical situations resonated very strongly for patients. Communication and clinical knowledge were consistently raised as themes by literature exploring patient satisfaction with emergency care (Rydman et al., 1997; Watt et al., 2005; Wellstood et al., 2005), suggesting that physiotherapy must conform to the standards of communication and knowledge expected from the patients, and that there are also very high expectations of the profession to provide these features in order to be a useful addition to the emergency setting.

6.5.5 Improved information and advice

There were contrary opinions between the cases as to how ED physiotherapists' provision of information and advice contributed to the quality of patient care and service delivery in the department. In general, the Austin ED patients saw information and advice as a positive physiotherapy contribution in the acute emergency setting, whereas the Townsville cohort saw it as more relevant to help people to return home during the sub-acute phase of injury or illness. Part of the reason why patients at the Austin ED appreciated physiotherapists' information and advice was a perception that they were very *knowledgeable about clinical conditions* and could therefore communicate information *accurately and simply*. As one woman summarised, “[it is] very reassuring to talk to someone that can explain and assist your recovery” (AP20):

Be gentle, explain info [and] detail, layman's terms... (38 year old ♂ aircraft maintenance engineer).

They would educate the...patients about the muscles and strengthening the injury (31 year old ♂ chef).

...maybe advice on certain injuries, how to take care of certain injuries [and the] recovery process (42 year old ♂ orderly).

Some felt that the reason physiotherapy would provide improved information and advice was that they had more *time* to give a thorough assessment and talk with the patients:

[Emergency department physiotherapists] may have more time to more thoroughly assess the problem and offer some really good, knowledgeable advice (26 year old ♀ student).

[They] would give a more rounded treatment; able to give more advice on home management, thus improving the service (23 year old ♀ osteopath).

You could be given info on the rehab [process] straight from the start and have a general idea of how long it will take to get the best results (29 year old ♂ patient services assistant).

Townsville ED patients focussed more on returning home; hopeful that ED physiotherapy could provide them with the skills needed to function independently in the community:

If you actually need physio (and not every patient does) it can lessen time in hospital by showing [you] exercises to strengthen the body to aid in healing and injury prevention (28 year old ♀ public servant).

They could give you advice/knowledge that you could use after you've left emergency (23 year old ♀ office manager).

... they can suggest ways that could make going home easier and implement tools to help [make] it easier for you (22 year old ♂ fitter).

Several Townsville ED patients believed information was related primarily to instruction on how to use gait aids, perform exercises and move the body in a more comfortable way. For

example, “crutches instructions and suggestions/ advice for maintaining movement in non-painful areas” (TP21). Both cases saw ED physiotherapy as a valuable resource of information and advice, but differed in how the advice would best benefit the patients.

6.5.6 Improved departmental efficiency and early intervention

Related to the above concept of physiotherapists having more time with patients, a primary service delivery benefit of ED physiotherapy was the ability to improve departmental efficiency while simultaneously offering early intervention. Patients, especially at the Townsville ED, valued the idea of being attended to promptly, not only because it was useful for their injuries, but it made the hospital journey more efficient and comfortable:

It would speed up the emergency department by being able to attend to muscular injuries which would free up more doctors (18 year old ♀ occupation unknown).

It would cut down the time lapse from your arrival to when you go home – that can only be good for the hospital . . . it cuts down on the time lapse between you being here and the treatment (62 year old ♂ operations manager).

Wouldn't waste so much time being passed around from department to department . . . someone who specialises in the injuries I have so again not so much wasted time going to places I don't need to go (20 year old ♀ car detailer).

Both Austin and Townsville patient cohorts also described the clinical benefits of being seen earlier. Physiotherapy was perceived to encourage better healing of injuries by making patients with minor injuries a higher priority, which in turn reduced hospital-related comorbidities:

Being in hospital isn't always comfortable or natural, and aches and pains other than the primary injury or condition can develop, and the physiotherapist [could] provide care for these (39 year old ♀ inquiry agent).

[Physiotherapy provides] comfort in bed, movement whilst waiting, decreases RSI or bed stiffness (30 year old ♀ childcare worker).

It would be ideal to have someone specialised in that area to have first-hand contact with the patient instead of making the patient wait . . . The patient may go home earlier because they have received the correct care straight away (31 year old ♀ facility manager).

[Emergency department physiotherapy is] better by offering immediate treatment, quicker healing (29 year old ♂ storeman).

Patients in both cases had previously criticised waiting times and departmental efficiency (Section 6.3). They were concerned that their problems were not meaningful to the staff and risked being ignored, fostering physical discomfort and poor staff-patient rapport. Many anticipated that ED physiotherapy would help rectify this and prevent associated physical problems. Particularly high expectations of improved departmental efficiency were held by

the Townsville ED patient cohort. This is supported by a research finding from McClellan et al. (2006) that ED physiotherapists were the most efficient and effective musculoskeletal clinicians in one English emergency department.

6.5.7 Movement and exercise

The Austin ED patients believed a key service benefit would be providing patients with plans to move and perform exercises as an ongoing health strategy. Patients understood that immobility had negative health consequences and thought physiotherapy was the appropriate profession to encourage safe ambulation around the department and upon discharge:

[Emergency department physiotherapy] could help decrease pain which would allow someone to get back home. Could improve mobility or help with mobility aids to give someone the independence to be allowed back home (26 year old ♀ medical student).

[They] provide patients with aids, e.g. frames, and how to transfer safely (23 year old ♀ registered nurse).

Improves mobility to get home, easing pain (66 year old ♂ retiree).

Complementing patient ambulation were exercise strategies to help regain strength and movement in affected parts of the body. Exercises were something the patients could do at home as part of their ongoing health maintenance and physiotherapists could also educate patients on better physical techniques to avoid future hospital visits:

They would educate the patients about the muscles and strengthening the injury. [Physiotherapy helps people home] by making the patient aware of the best way to lift things; stretches for strengthening (31 year old ♂ chef).

Instead of doctors/nurses treating the injury they could give exercises and stretches for the person to do at home (30 year old ♂ carpenter).

[Provide] education on exercise [and] how to prevent injury occurrence (23 year old ♀ registered nurse).

Gordon (2007) revealed that Australian emergency department patients positively correlated physiotherapy-prescribed exercises with the impact the emergency visit had on their life and recovery. Patients valued the ongoing healing exercises could offer and believed this to be a strong indicator of a satisfactory emergency department stay (Gordon, 2007). The present study complements Gordon's findings, with Austin ED patients valuing improved movement through ambulation and exercise. It remains unclear why the Townsville ED cohort did not articulate this, however this lack supports the trend of the Townsville patients describing exercise therapy as being less meaningful (Section 6.4.1.2). At present, no reasonable theory can be ascertained as to why this is so.

6.5.8 Maintaining community status

Encouraging patient care in the community was the final primary service benefit proposed by the patients, especially the Austin patient cohort. Patients had confidence in the physiotherapist's abilities because they trusted that they were safe and deemed appropriate to return to the community. Simply, ED physiotherapists needed to “demonstrate [tasks] and assess patients' capacity to function and perform tasks” (AP26). Keeping patients in the community involved a combination of pre-discharge assessment, physiotherapy follow-up and linking patients with other health professionals in the community:

Treatment provided – by offering it in an outpatient capacity keeps you as a community patient instead of a hospital one – this is vital for recovery (44 year old ♀ project manager).

[Physiotherapy can] help out at home – visit regularly once it's alright for the patient to go home. Physiotherapy can call up and check in as often as needed (21 year old ♀ occupation unknown).

It would save having to go and make appointments the next day after you have seen the doctors (51 year old ♀ storeperson).

'Returned-to-community' status and appropriate physiotherapy follow-up made patients feel that their condition was being followed through. Austin ED patients valued being assessed prior to returning to the community, and once in the community, patients appreciated having appointments arranged to monitor the progression of injury or illness.

6.5.9 Unsure of the service delivery benefit

The final theme explores the opinions of patients who were unsure as to how ED physiotherapy would influence the emergency system. Many patients found it difficult to explain how ED physiotherapy would make their care better or worse (question 12), or help them return to the community (question 13). This was a particularly difficult theme for the Townsville patient cohort.

Responses to these two questions were often met with a straightforward “don't know”. For others it was the lack of familiarity with ED physiotherapy that made it difficult to describe what they could offer:

I am not sure because I have never had anything to do with them (61 year old ♂ retiree).

Not too sure because I have never had to have physiotherapy (27 year old ♀ receptionist).

Not worse – I'm not sure how it would make it better as in a critical situation I don't think they're needed, but I don't know (22 year old ♀ sales assistant).

Some found it hard to describe physiotherapy's contribution to the emergency department because their own condition did not need physiotherapy:

I have come to the ED with abdominal problems, so I don't think physiotherapy will help (21 year old ♀ radiographer).

It wouldn't have [helped], but that's only because I didn't need it (22 year old ♀ hospitality worker).

A small but vocal group of Townsville patients (N=4) were concerned that ED physiotherapy would make the care received in the department worse. No one articulated that physiotherapy's skills or knowledge would leave the patient worse off, but rather patients were worried that too many staff would congest the department or increase waiting times:

Maybe worse? Having a physio . . . may cause more complications as there is simply not enough room in the emergency department. I can see more important things happening to make the department better and more sufficient (19 year old ♀ legal secretary).

Worse if unnecessary – just another person that hospital policy says you HAVE to see. Could be more waiting time (28 year old ♀ public servant).

Physio in the ER would be a bit premature – [better] post ER (50 year old ♂ delivery driver).

Until someone has been appropriately diagnosed, I would think that a physio would not get involved. Once diagnosed, should they not be taken to another appropriate ward, if required, or sent as an outpatient [?] (38 year old ♀ education manager).

For most, the idea of ED physiotherapy was either a positive contribution to the running of an emergency department, or something they felt unqualified to comment on. Only a small number of patients from the Townsville ED worried that negative consequences would arise from the inclusion of physiotherapy in the emergency department. It is noteworthy that no such concerns were raised by the Austin patient cohort, where ED physiotherapy was visible, possibly indicating that patients did not witness the system to run any less efficiently or effectively with physiotherapy involved.

6.6 Discussion

A qualitative-style survey explored what 80 emergency department patients in Townsville and Melbourne perceived the ED physiotherapy role to be, and how it influenced the department's service delivery and quality of care. Overall, patients in both cases had a general, albeit simplistic understanding of what physiotherapy could offer in a traditional and emergency department setting. Patients shared many common expectations and criticisms about how both emergency departments operate, but there was variation between

the cases as to how physiotherapy works in this setting. In analysing the study’s findings, the researcher consciously refrained from ‘taking sides’ as to which case provided the most accurate description of ED physiotherapy. The intention was to explore how patients in two disparate emergency departments expect physiotherapy to influence the department in order to inform conceptual models of practice with subsequent studies (Chapters 7-9).

Table 12 summarises key themes raised by patients. The underlying grey tone in the table conceptually illustrates the participants, as there was seldom a theme that was completely devoid of comment from an entire case. Rather than thinking in absolute terms, Table 12 highlights the strength of themes within a particular case, as well as when both cases shared equally strong perceptions on the same topic.

Table 12: Case comparisons of patient thematic analysis

| Theme | Stronger perception: Townsville cohort | Equally strong case perceptions | Stronger perception: Austin cohort |
|--|---|--|---|
| Section 6.3 Emergency system expectations | | | |
| Waiting | | | |
| Multiple staff | | | |
| Communication | | | |
| Physical structure | | | |
| Satisfied with quality | | | |
| Section 6.4.1 General features of physiotherapy | | | |
| Hands-on contact | | | |
| Exercise therapy | | | |
| Comfort and support | | | |
| Education | | | |
| Section 6.4.2 Common practice: transferring physiotherapy into the ED | | | |
| Sports management | | | |
| Musculoskeletal mx | | | |
| Rehab/ mobility | | | |
| Pain management | | | |
| Respiratory mx | | | |
| Elderly and falls | | | |
| Section 6.4.3 Responsibilities specific to ED physiotherapy | | | |
| Orthopaedics | | | |
| Accidents | | | |
| Section 6.5 ED physiotherapy’s influence on service delivery/ quality of care | | | |
| ↑ patient recovery | | | |
| Peace of mind | | | |
| Role delineation | | | |
| ↑ clinical knowledge | | | |
| Information/ advice | | | |
| Efficiency/ early rx | | | |
| Movement/ exercise | | | |
| Community status | | | |
| Unsure | | | |

6.6.1 Meeting expectations

Patients have clear expectations as to what an emergency visit should involve, incorporating many clinical and caring competencies. How closely these expectations are met dictates patients' satisfaction with care (Gordon, 2007; Gordon et al., 2008; Nystrom et al., 2003). Both patient cohorts expect to be triaged, have lengthy waits in the waiting room or cubicle, and to deal with many different emergency staff, consistent with the literature (Gordon, 2007; Gordon et al., 2008; Nystrom et al., 2003; Wellstood et al., 2005). Patients also recognise that they are a vulnerable population and that emergency departments must have systems and processes in place, such as triage, to streamline care for all (Gordon, 2007). However, for many patients, it is difficult to balance their logical awareness of the 'realities' of the emergency system with their personal frustrations. For example, many are annoyed when information about the emergency process is not explained quickly and clearly, or if staff are not seen to 'care' (Watt et al., 2005; Wellstood et al., 2005). Patients of the Townsville ED are especially critical of the quality of staff communication, concurring with previous findings that attentive and friendly communication is one way that people without medical knowledge judge their emergency department experience (Hostutler et al., 1999).

As with previous qualitative studies, patients emphasise a desire to be looked after, attended to quickly, be comfortable in their treatment areas and feel as though staff have taken an active interest in their condition (Gordon, 2007; Gordon et al., 2008; Hostutler et al., 1999; Wellstood et al., 2005). However, in this study it is harder to gauge whether the patients are drawing on their present emergency department experience to voice concerns about the quality of care, or if this is based on previous emergency department encounters. Most participants have attended an emergency department as a patient previously, some over half a dozen times. Therefore it is difficult to extract their comments from previous encounters and the research must acknowledge that the findings may not be based purely on the participants' experiences of the two hospitals under investigation.

Patients in both cases anticipate being managed by many different health professionals. Studies suggest that patients may view care in emergency departments, especially that given by nurses, as a 'conveyor-belt' where many different roles and responsibilities appear fragmented, making the experience more confusing to the lay person (Nystrom et al., 2003). For example, it can be overwhelming for patients to see one nurse responsible for triage, another for phlebotomy and another for general care (Nystrom et al., 2003). However, there is no evidence in the present study that patients are concerned about receiving care from a range of doctors, nurses, radiologists, physiotherapists and others. Patients have clear expectations of having their overall management coordinated by the doctor, with very little

mentioned about the nursing role other than in the triage process. Patients also feel that more staff being employed is an important way to improve the care offered by emergency departments. Therefore, the volume and variety of staff appears secondary to having overall care coordinated by the treating doctor.

It is unclear if introducing physiotherapists as autonomous clinicians, who can treat patients to avoid unnecessary medical consultation, would be poorly received by patients. Literature suggests that patients who do receive physiotherapy intervention instead of medical or nursing care are not disappointed and tend to be more highly satisfied with their quality of care. Patients especially value the increased length of consultation time and decreased overall waiting time, and there is no indication that they 'miss' not having traditional coordination by a medical practitioner (Gordon, 2007; Hostutler et al., 1999; Jibuike et al., 2003; McClellan et al., 2006). This can not be confirmed by the present study, although it is clear that patients in both cases do not expect physiotherapists to be part of the emergency team (Gordon, 2007).

Three quarters of patients surveyed believe that the emergency departments need improving, citing a variety of domains: communication; comfort; interpersonal care; and waiting. Only one quarter of patients surveyed feel that the emergency department has met their expectations. It is difficult to ascertain whether these patients are genuinely satisfied with their experience or if they feel unqualified to offer recommendations. In other qualitative studies patients have been reluctant to lay blame on staff within emergency departments, even though they may be dissatisfied with the quality of care (Britten & Shaw, 1994; Gordon, 2007; Nystrom et al., 2003). Patients instead direct frustrations towards people in higher management positions and politicians because they are removed from providing direct care (Britten & Shaw, 1994; Gordon, 2007; Nystrom et al., 2003). In this study there is a trend towards those who are satisfied being older and perhaps loyal to traditional medical authority. Interesting phrases used to emphasise support for the current system include one man saying he would not have the 'temerity' to comment otherwise, as though it would be reckless to make recommendations based on his emergency experience. Therefore it may be appropriate to reflect that those who did not make recommendations about improving the system were not necessarily completely satisfied with their care, but possibly chose to reserve judgement based on feelings that they could not offer a better 'solution' to any concerns.

6.6.2 Integrating physiotherapy into the emergency department

Patients from both cohorts mention a variety of roles that physiotherapists undertake in the emergency department. There is disparity between the two cases as to what these roles involve. Only one third of the roles cited are described equally between the cases, implying substantial case differences. Literature has always described physiotherapy as having a focus on musculoskeletal, orthopaedic and sport-related conditions (Sheppard, 1994; Struber, 2003, 2004). From the patients' perspectives, these roles are reinforced as most patient management involves assessing and managing acute soft tissue or orthopaedic injuries.

Generic physiotherapy roles include hands-on contact, exercise therapy and interpersonal dimensions such as providing comfort and support (Sheppard, 1994). Transferring physiotherapy's role into the emergency department, however, means that the physiotherapy profession has to adapt to the emergency setting. Accordingly, patients think ED physiotherapists will deal with car accidents, fractures and acute trauma because that is what emergency departments are designed for. From the patients' perspective, injuries are the likely reason for patients attending the emergency department. While they recognise that physiotherapists have roles in longer-term rehabilitation in other settings, the patients assume that physiotherapists will have a greater role in acute management: relieving pain; relaxing and comforting the patient; providing acute soft tissue injury management; and helping dislocated joints. In an Australian context, this is contrary to the actual emphases of ED physiotherapy: discharge coordination; aged care planning; organising home-based support services and community outpatient referrals; and acute musculoskeletal care (Anaf & Sheppard, 2007a, 2007c; Rutledge, 2005; Taylor et al., 2004; Walker et al., 2006). Patients envisage an ED physiotherapy role more typical of the advanced, extended care responsibilities in the United Kingdom (Jibuike et al., 2003; McClellan et al., 2006; Richardson et al., 2005; Smith & Buckley, 2004).

Interestingly, participants at the Austin Hospital show consistently stronger opinions about what physiotherapy and ED physiotherapy involve. Of the twelve themes raised in section 6.4, the Austin cohort has the strongest perceptions for half (exercise therapy, comfort and support, education, mobility and rehabilitation, respiratory management and elderly care) and share equally strong case perceptions with the Townsville cohort for four other themes (hands-on contact, sports management, musculoskeletal management and orthopaedic roles). Participants at The Townsville Hospital perceive ED physiotherapy's role more strongly as involving pain management and care for accident victims, reinforcing the image of physiotherapy fitting a 'trauma' centre environment.

It is unclear why there is such an obvious disparity between the cases. One theory is that participants at the Austin Hospital have previously witnessed the ED physiotherapist working the floor and may have drawn their conclusions based on observations. It was not feasible nor in the spirit of conducting a naturalistic inquiry to isolate potential participants from observing ED physiotherapists at work, but it may have influenced participants' responses. Hardly any patients have personal experience of being treated by an ED physiotherapist, so this was a less likely influence.

Alternatively, Heidelberg in Melbourne is known to have a greater trend towards an ageing population compared with Townsville (Anaf, 2005; Hough, 2004a, 2004b), and it is possible participants have seen physiotherapists for more aged care, rehabilitative-type management as opposed to traditional musculoskeletal and sports interventions. This may explain a stronger emphasis on describing roles with the elderly, respiratory patients or those needing mobility supports. However, there is very little disparity between the mean ages of participants between the cases, so this theory remains purely speculative.

6.6.3 Changing the face of service quality

Consistent with previous findings on patients' perceptions of quality care, both cases anticipate ED physiotherapy to improve service quality by offering a range of 'caring' competencies (Gordon, 2007; Kihlgren, Nilsson, Skovdahl, Palmblad, & Wimo, 2004; Nystrom et al., 2003; Stuart et al., 2003). Both cases believe ED physiotherapy improves patient recovery, and provides greater peace of mind and better levels of information about their presenting conditions. Previous studies have shown that ED physiotherapy enhances patient satisfaction because greater time, communication and follow-up are provided to patients (Kempson, 1996; McClellan et al., 2006; Smith & Buckley, 2004).

The most prominent case differences are that the Townsville cohort expects the advent of ED physiotherapy to shape some key service quality dimensions, efficiency in particular. Physiotherapists are perceived to have expert knowledge of the human body, and can offer greater efficiency with assessment and treatment to free up doctors' and nurses' time (Jibuike et al., 2003; McClellan et al., 2006; Rutledge, 2005). In contrast, the Austin cohort describe ED physiotherapists as helping patients better achieve their functional goals: increased levels of mobility and movement; and transitioning patients back to their homes as appropriate (Anaf & Sheppard, 2007a, 2007c; Moss et al., 2002; Taylor et al., 2004). Both cohorts overwhelmingly support physiotherapy's role in emergency departments, describing it as helpful, a specialist service and one which adds a positive dimension to the overall care provided by doctors and nurses.

6.6.4 Perspectives on 'the system'

Important insight is gained into physiotherapy's connection to the emergency department, taking a systems theory perspective. Participants perceive the emergency department system to have a significant level of dysfunction, ranging from limited caring competencies (including reassurance and communication), staff with complex and poorly defined roles, and overt time pressures delaying care. A soft systems view indicates that the emergency department culture is shaped by a medical hierarchy, a triage process where patients are categorised by their presenting condition and a task-focussed mission to convert *inputs* (unwell patients) into *outputs* (healthier patients being discharged from hospital care). From the patients' perspectives, a biomedical model is the clear cultural framework for the emergency system.

Emergency department culture is only partly compatible with the needs and goals of the patients surveyed. Fundamentally, patients are critical about the strength of the relationships between themselves and the emergency department staff. The generic model of a system, as illustrated by Flood and Jackson (1990) (Figure 7), shows the dominant interactional role occurring between elements to create a feedback loop. This research proposes these elements to be the various staff and patients working within the emergency department boundary (Dooris, 2005). The difference between these elements as opposed to those in a hard system, such as a fault in a computer or mistake on a conveyer belt, is that the elements themselves are dynamic; they have individual demands and world views. While they may be grouped as 'elements who are patients' or 'elements who are doctors', the relationships and individual participant characteristics are infinitely more complex and difficult to modify than a traditional systems approach may recognise. Fortunately, the added contribution of a soft systems perspective appreciates these different world views, or *weltanschauung*, by helping to reflect on why and how the emergency department system may not be compatible with participants' opinions (O'Meara, 2002).

Where the emergency department focuses on creating a feedback loop that is efficient and dynamic, patients appear frustrated by how they are 'processed' in the system (Figure 27). This is especially disconcerting at the point of entry into the system, when they first attend the department and are waiting for consultation, diagnosis and regular updates on their medical status. Patients do not appear concerned that their *output* from the system (being discharged) is unsuitable, as none were critical about inappropriate discharge management from a clinical perspective. Instead, it indicates that for patients, critical relationships are not being forged in what appears to be the system's quest for efficiency (Figure 27). Their demands on the emergency system are clearly not compatible with a biomedical culture that

focuses on treating the ailment rather than the whole individual.

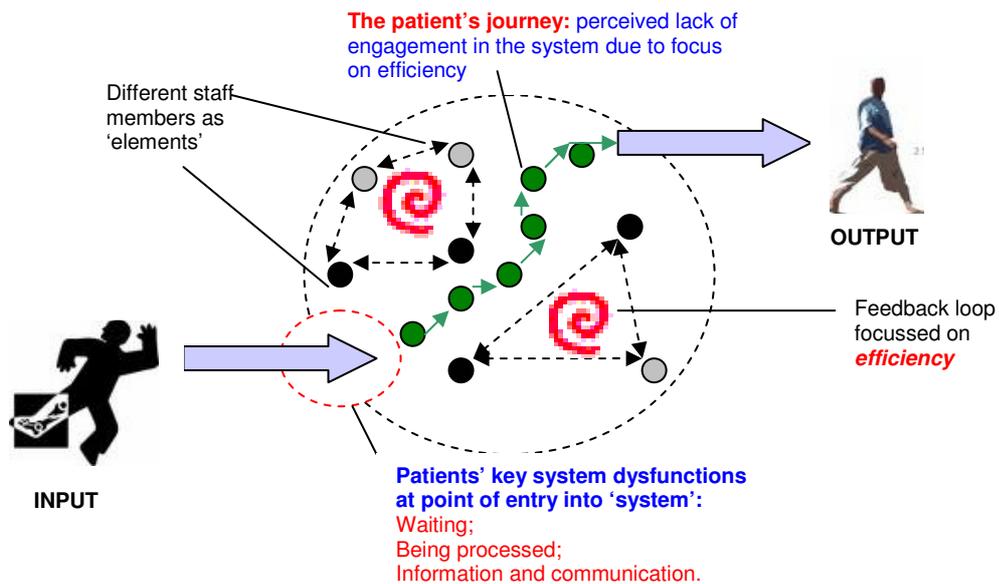


Figure 27: Patients' perspectives on the system

Conversely, the emergency system has an explicit purpose to treat acutely unwell patients who typically require hospital care (Australasian College of Emergency Medicine, 2005). Until recently, the biomedical model of care has been appropriate for this function (Wilson, 2005). Negative systems pressures such as patients' reduced access to community health services, access block and staff availability have changed the direction of the emergency system to provide a greater primary health care role, contrary to its historical function (Corbett et al., 2005; Fatovich, Nagree, & Sprivulis, 2005; Forster, 2005). The emergency department system is in an unenviable position to provide care to all, as demanded by Australia's universal access to health services (Porter-O'Grady, 1996). This means that *inputs* (unwell patients) are more diverse, voluminous and unrelenting but the system's structural architecture has not effectively adapted to these new pressures (Keating, 2000).

Physiotherapy is one option to assist the emergency department system adapt to increasing demands on its services. According to patients, physiotherapy can bring to the emergency department system an additional skill set to that of traditional emergency staff, including a greater knowledge of, and interest in, musculoskeletal and sports medicine; a willingness to manage less urgent conditions to alleviate time pressures on doctors and nurses; and a philosophy to educate and communicate more readily with patients. Physiotherapy's biopsychosocial framework appears more compatible with patients' desires for management. They value the peace of mind, education and explanations offered by physiotherapists very highly. Arguably, in their heightened state of anxiety and vulnerability from attending an emergency department, patients demand such components of care more-so, yet they expect

this from a department whose purpose is least bounded by the psychosocial components of care. It raises an interesting dichotomy which physiotherapy must, and can, bridge.

Physiotherapy has the clinical knowledge, treatment techniques and professional interest to manage many of the patients' main demands, including providing education about their conditions; improving pain relief; and providing faster treatment and consultation. Importantly, patients view the physiotherapists' skill base as compatible for assisting with the acute nature of presentations that arrive at an emergency department. Several components of care mentioned by patients are unique to the physiotherapy profession in the hospital setting, including exercise prescription as a treatment technique and hands-on musculoskeletal management. The majority of patients indicate that ED physiotherapy will help the system, not hinder it, because it is appropriate for the profession to assume some of the professional responsibilities in the department, and is capable of interacting with other emergency staff to improve the quality and efficiency of care administered to non-urgent or complex patients.

6.7 Conclusion

This emergency patient perspective on the roles and influences of ED physiotherapy simultaneously highlights great support for an additional member of the emergency team while revealing that most people have a simplistic understanding of the range of physiotherapy services available, skewed towards musculoskeletal care, as research has consistently shown (Sheppard, 1994; Struber, 2003, 2004). Patients believe ED physiotherapy will add a significant dimension of caring competency and communication; a dimension of which most patients were critical in the current emergency systems. The Austin cohort articulated the widest variety of physiotherapy roles, although both cohorts expected the profession to have to adapt to the emergency setting rather than the emergency setting being modified to incorporate physiotherapy.

7 Community Health Professionals' Perceptions

7.1 Introduction

This chapter outlines the findings from the qualitative-style questionnaire administered to community health professionals; GPs, community-based nurses and community-based physiotherapists¹⁵. The questionnaire investigated what the community sector understood ED physiotherapy to provide, how they saw their professional roles being influenced by ED physiotherapy, and what the key relationships were between ED physiotherapy and the community sector.

Findings were influenced by generally poor response rates to the questionnaire, most notably from the GPs (Addington-Hall, Walker, Jones, Karlsen, & McCarthy, 1998). Nevertheless, significant detail was gathered from participants due to the depth of questioning, providing meaningful and useful discussion. The responses offered the first known insight into how the community sector interprets the roles and responsibilities of ED physiotherapy, and thus contributes to achieving all of the outlined research aims and objectives. Extensive use of quotations guided the layout of findings. The use of different case colours (Melbourne blue and Townsville purple) again facilitated constant case comparison.

7.2 Participant characteristics

Thirty five community health professionals returned completed questionnaires, equating to an overall response rate of 40% (Table 13).

Table 13: Participant response rates

| | Townsville District (N) | North-East Melbourne District (N) |
|---|------------------------------|-----------------------------------|
| General Practitioners | 7 / 28 (25%) [#] | 4 / 13 (33%) [#] |
| Community-based nurses | 5 / 10 (50%) [#] | 9 / 18 (50%) [#] |
| Community physiotherapists | 6 / 10 (60%) [#] | 4 / 8 (50%) [#] |
| Total participants | 18 / 48 (37.5%) [#] | 17 / 39 (43.5%) [#] |
| Study Total: N=35 / 87 (40.2%)[#] | | |

[#] (%) Response Rate

¹⁵ In-text referencing allocates a participant code to quotations as follows: Townsville GPs (TD *); Townsville physiotherapists (TPT *); Townsville community-based nurses (TN *); Melbourne GPs (MD *); Melbourne physiotherapists (MPT *); Melbourne community-based nurses (MN *).

The Melbourne-based community nurses (N=9) comprised the largest gross number of participants, however the biggest percentage of returns came from the Townsville community physiotherapists (60%), relative to the number of questionnaires provided to the cohort (N=10) (Table 13). In both cases the GP response rate was disappointingly low despite approximately 50 questionnaires being administered (Addington-Hall et al., 1998). The lower overall response rate from the Townsville district was influenced by the number of GPs who did not complete the questionnaire. Overall, the total participants were approximately equal between the cases (N=18 Townsville district; N=17 North-East Melbourne district), however considerable variation between participant numbers within each stakeholder population was recorded.

7.3 Emergency system challenges

Community health professionals in the local areas surrounding the Austin Hospital and The Townsville Hospital were encouraged to share their perceptions of the main emergency department system flaws. Both cases agreed on core problems, despite their significant geographical differences. The themes, in their broadest context, were divided into problems that were intrinsic to the emergency departments; and emergency department problems that impacted negatively on the community management of patients.

7.3.1 Intrinsic emergency department problems

Participants agreed that emergency patients faced the frustrating problem of *excessive waiting times*. General practitioners (GPs) in both cases felt that the waiting times had at times influenced their own management of patients:

[There are] long waiting times for non-urgent cases; I may be reticent to send a 'borderline' patient [to ED] because of the likely extended wait (Melbourne GP).

[There are] too many trivial problems presenting, causing patient frustrations at waiting times (Townsville GP).

Waiting times also reflected under-resourcing of the department, either through inadequate funding or inadequate staffing. One Melbourne community-based nurse believed that the Austin ED suffered from a lack of resources within the hospital overall, which filtered down to cause long waiting times for emergency patients. Similarly, a community-based physiotherapist in Townsville felt that The Townsville Hospital had a “*lack of qualified doctors and lack of funding [causing] increased waiting times/inefficiency/danger*” (TPT5). The waiting time in the emergency department was seen to be a cause of “*frustrated and stressed patients*” (TPT3). When asked to further describe reasons for development of ED physiotherapy, this same physiotherapist noted that “*early intervention to address acute*

musculoskeletal injuries should decrease outpatient waiting lists in the physio department” (TPT3), implying that excessive hospital waiting times were not confined to the emergency department; they were true of other internal hospital departments linked to it.

A major problem raised was the significant *overutilisation of the emergency department*, which created a reciprocal burden on the community sector. Community health professionals were strongly attuned to the impact of overuse of the Austin ED on servicing patients in the community following discharge. One Melbourne nurse, whose role in the community was to manage patients under the age of 65 years who had some form of disability and were at higher risk of presenting to the ED, found a connection between the overuse of the emergency department and dependence on her services:

[The] number of clients presenting to ED [is] increasing. Clients [are] sent home with community support or to respite... When the ED is busy [there is] more referral to our program. We are the main referral source for ED clients requiring case management on returning home. Increasing number of referrals to our program [causes] occasional waitlists to our program due to the above (Melbourne community-based nurse).

Other community health professionals in Melbourne supported this sentiment. A GP, for example, argued that there was “excessive flow of cases both minor and major...long waiting times and not enough doctors” (MD1). Physiotherapists in the community were also concerned that overuse of the emergency department was a symptom of “minimal bulk-billing GPs in the area” (MPT3), causing more ‘walk-ins’ to the emergency department as residents sought affordable medical attention. Community nurses concurred with physiotherapists, concerned that the “increased number of presentations [to the emergency department caused] an increased number of referrals to the community and pressure on community services” (MN9).

Overuse of the emergency department was as concerning for community health professionals in Townsville as in Melbourne. Nurses were particularly concerned about the public’s dependence on the emergency department for assessment, treatment and ongoing care, and how, without proper discharge management, patients would continue to re-visit health services:

Increasing numbers of clients are presenting due to limited resources and service provision in the community. [The consequences are] clients are sent home, not admitted and return with the same problem...clients discharged too early and rebound into hospital (Townsville community-based nurse 2).

Increasing presentations [cause] high workloads, clients discharged with limited planning, frequent readmissions [and a] backlog in completion of discharge summaries (Townsville community-based nurse 5).

Community-based physiotherapists also identified that the demand on the Townsville ED to provide clinical services risked compromising the quality of care patients received within it. Staff were overworked, with little opportunity for reprieve or any say over who received care. As one physiotherapist argued:

So many people use emergency for all health issues; not just those requiring urgent attention of a doctor... We need to look at changing why a large number of people use emergency departments as their first point of contact for all health issues (Townsville physiotherapist 2).

A physiotherapist specialising in the management of aged care clients in the community was concerned that the total number of patients who presented to the emergency department received relatively short contact hours during their acute stage, necessitating him to provide longer contact hours in the community to follow up on treatments and details that had been omitted in the emergency department. Townsville physiotherapists agreed that a solution to emergency department overuse needed to focus on providing high-quality follow-up care to decrease emergency department stress:

Get patients home – prepare patients for self management or treatment in outpatient settings/community settings (Townsville physiotherapist 4).

Reduce [the] need for re-admittance to hospital with quality follow-up care, therefore decrease ED stress (Townsville physiotherapist 5).

The *reduced number of inpatient beds* available for residents who attended the emergency department correlated strongly with overuse of the emergency department (Cameron & Campbell, 2003b; Fatovich, 2003; Thomas & Cheng, 2007). Townsville community health professionals, especially the physiotherapists and GPs, were more vocal about the impact bed numbers had on emergency patients. One GP noted that part of her role was liaising with the Townsville ED, as she referred patients to the department once or twice a month on average. Other GPs commented that it was standard procedure to refer to the emergency department when there was an acute exacerbation of a patient's illness, such as progression of angina to suspected myocardial infarction or if a patient required admission to the hospital wards.

Given the inpatient bed shortages, GPs raised concerns about the underlying pressure “not to admit” (TD2), the consequence of which was “sick people sent home, then ending back in ED again” (TD2):

[There are] not enough beds in hospital ... [causing] clogging in ED (Townsville GP 6).

As very much an outsider, it's not appropriate for me to comment on [emergency department problems], although I can imagine accepting patients for admission when there is a shortage of beds would prove difficult (Townsville GP 1).

Physiotherapists in the Townsville community were also worried about the lack of general hospital beds available. They imagined this to be a primary cause of emergency department staff stress as it added extra caseload burdens:

[There is] a relative lack of beds if needing admission – more time spent caring for those waiting for a bed (Townsville physiotherapist 1).

Number of beds available in the wards [means] patients are waiting in ED (Townsville physiotherapist 3).

Reduced inpatient bed numbers was a primary reason why the emergency department in Townsville was under pressure. The community sector's frustration with this situation was consistent with recent health system investigations which revealed that despite admitted patient services accounting for over 50% of Queensland's health budget expenditure (Davies, 2005), there was a conflicting state trend towards reducing inpatient bed numbers as a cost-cutting mechanism, thus causing patient and staff distress (Forster, 2005):

Bed closures [cause] those needing admission to be sent home – increased ED presentations (repeated presentations), increased wait times, decreased outcomes for clients, increased worker stress and burnout (Townsville physiotherapist 6).

The final intrinsic issue of concern was the quality of staff servicing the emergency department. The burden of caseload on staff and the requirement to diagnose, manage and ultimately discharge so many patients raised the question of whether there were enough *adequately trained staff* to service patient need. For community-based nurses in Melbourne, one problem negatively influencing service efficiency was the number of inexperienced emergency medical staff who were unsure of how to liaise appropriately with the community clinicians:

[An issue is] misinformed staff – incorrect information being given to patients (Melbourne community-based nurse 8).

[A concern is] junior medical staff – lack of communication with GP and community supports (Melbourne community-based nurse 6).

This was of even greater concern in Townsville where GPs, physiotherapists and nurses agreed that recruiting appropriately qualified staff was a major emergency system inefficiency:

Another difficulty I have found is adequate supervision of junior doctors who may misdiagnose and send people home who really should be admitted for further management. . . [consequences of which are] wrong diagnoses and having to harass senior staff to assess and admit/treat appropriately (e.g. missed septic arthritis, missed appendicitis) (Townsville GP 1).

Several physiotherapists concurred, where the quality of professionals was as much of a consideration as the significant shortage of staff to service the emergency department:

Lack of qualified doctors – increased waiting times/inefficiency/danger (Townsville physiotherapist 5).

Understaffing of nursing, auxiliary and doctors – inadequately trained staff (not their specialty) to be sent to cover ED. Increased waiting times, variable outcomes for clients (Townsville physiotherapist 6).

One physiotherapist raised the concern that inadequately trained staff in the emergency department could prove a liability to the physiotherapy department, burdened by inappropriate referrals and a poor understanding about what physiotherapy could offer emergency department patients:

Not enough staff, insufficient training [led to] increased waiting times, poorer service . . . Sometimes unnecessary referrals are made for physios to come to ED before appropriate investigations have been carried out to warrant physio assessment. Can be very time wasting when physio staffing is limited (Townsville physiotherapist 4).

Participants from Melbourne and Townsville were equally concerned about the influence of staff numbers, staff quality, bed numbers and waiting times on the emergency system's efficiency and effectiveness. The relationship between the community sector and the emergency department repeatedly arises in literature exploring systemic burdens such as access block, where the insufficient number of community beds for the ageing population causes a reciprocal problem in the emergency department, which often needs to attend to the elderly for minor conditions due to inadequate community and social support (Moss et al., 2002).

There is a trend in Australia to restructure patient services away from inpatient management towards community care (Taylor et al., 2004). The concerns raised by community health participants reflect uneasiness in the face of transitioning emergency roles (e.g. moving from inpatient to outpatient foci, increasing cost-cutting exercises for community and inpatient beds) and how this may or may not change their professional practices (Anaf & Sheppard, 2007a; Cameron & Campbell, 2003a; Taylor et al., 2004). This finding leads to the next focus on emergency system challenges: how community health professionals believe the roles, burdens and responsibilities of the emergency departments under investigation may directly influence health care provided to the community.

7.3.2 Emergency department problems influencing community care

Health professionals in the community, especially in Melbourne, were concerned about the *lack of connection and consultation* between the emergency departments and the community sector. With emergency departments regularly needing to go on ambulance bypass to modulate the hospital's capacity, participants were concerned they would be even more

poorly integrated into patient care than they already believed they were. Nurses were especially bothered by the negative impact hospital bypass had on practical issues such as families travelling to visit patients, a lack of local health service knowledge among other hospital staff when patients are shifted outside the local region, and the mounting pressure to move patients into community programs to appear to be meeting discharge expectations:

Hospital ED is often on bypass so local residents often get sent to hospitals way out of the region. Elderly relatives have difficulty visiting hospitals so far away. Hospitals out of the region do not know local services to refer to (Melbourne community-based nurse 2).

To clear or help clear the ED to prevent the need for bypassing to occur [means that] when busy, patient numbers exceed my ability to assess all for referral to my program (Melbourne community-based nurse 3).

Community health professionals in Melbourne gave the impression that their ability to do their job, whether it be following up with patients or directing them to appropriate services, was made more difficult when *poor discharge planning* was undertaken in the emergency department or patients were redirected from the hospital due to the department exceeding its capacity. As one nurse suggested, “[Poor] communication with GP and community services [leads to] poor discharge planning” (MN6). Another nurse confirmed this, noting, “I may receive referrals with minimal info due to limited assessment time in ED” (MN3).

The emergency department-community sector connection was challenged by the quality of information provided to emergency patients. Some participants felt that they had to re-address patient concerns due to lack of quality of information they received in the emergency department:

[We] need to re-educate families. Extensive follow-up required for some in order to ensure families have the correct information and plans at home (Melbourne community-based nurse 8).

Concerns that discharge planning and limited information provided for the patients compromised community health professionals’ interventions were also pertinent in Townsville. Some felt they were being guided ‘blindly’ through cases, meaning the community sector had to establish a greater foundation of information from the patients upon discharge. For example, one GP felt that there was “poor information back to carry on patient care” (TD3) once patients left the emergency department. Nurses agreed that emergency department patient care was being compromised if patients were sent home without a proper follow-up plan to be managed in the community:

Clients [are] discharged with limited planning . . . [It’s] difficult to access services required by clients [due to] high workloads of allied health. Required to manage clients in community with limited referral information (Townsville community-based nurse 5).

In Townsville, the fact that the emergency department has computer systems in place to gather patient information but the community sector does not have access to these was particularly concerning for the aged care community sector. Due to this breakdown in communication, some believed they were being denied access to important patient information that would ensure they could do their job effectively:

ACAT [aged care assessment team] is extremely interested in patients' hospital stay including presentation to ED. Currently TTH ED has EDIS [emergency department information systems] discharge summary which is not accessible via enterprise electronic discharge summary. This is a huge gap – as no communication information is available (Townsville community-based nurse 3).

Another major issue for community health professionals was the *inappropriate use of GP services*. The emergency department was exposed to inappropriate referrals due to either a lack of GP services or the associated expense of visiting a community-based doctor. This was particularly relevant in Townsville, and clearly a sensitive issue for one GP:

...Politicians like to blame GPs who do not bulk bill our patients going to ED, even though studies have disproved this (Townsville GP 6).

The topic provoked an opposing reaction from a community nurse, concerned that Townsville has “no GP services after hours” (TN1), suggesting this may be partially overcome by “GPs not choosing lifestyle over dedication” (TN1). The physiotherapists were more pragmatic about the inappropriate use of GP services, weighing up possible causes of the problem with why the public depended on emergency services so frequently. One physiotherapist drew on her previous experience in rural Australia where there was very high quality communication between the community sector and the emergency department:

In smaller towns the GP acts as an ED manager as well as having an opportunity whilst in those communities to interact with the GP about those seen (Townsville physiotherapist 6).

Another physiotherapist felt that “many things could and should be seen by GPs and/or first-contact physiotherapy providers” (TPT2), and that Townsville needed “to look at changing why a large number of people use emergency departments as their first point of contact for all health issues” (TPT2). The latter statement correlated most strongly with the perceptions of Melbourne community health professionals, whose concern was that there are “too many admissions that could be covered by a GP, [causing] staff stress” (MN7):

The HARP [hospital admission risk program] funding helps address the problem with people coming into emergency regularly, the ‘frequent flyers’. I think emergency departments do a good job [but] there's a need to be better resourcing through GPs – i.e. more doctors, better remuneration [to allow] more bulk billing (Melbourne physiotherapist 3).

There were very real limitations on patients' ability to access GPs in the north-eastern Melbourne area. This had a reciprocal impact on the emergency department, as “minimal

bulk billing in the area [causes] more walk-ins to emergency” (MPT3). A solution suggested by a Melbourne community-based nurse was to develop “more GP clinics and better education regarding the use of emergency” (MN7). A major priority for Townsville and Melbourne communities was to introduce a system that could accommodate the needs of less urgent, ‘GP-style’ cases without overburdening the emergency system.

Townsville community health professionals singled-out one population – *the aged care sector* – as being particularly vulnerable to emergency department problems. In Townsville, the community itself was unable to attend to the needs of the ageing population as there was inadequate infrastructure to offer support:

[There's] a lack of support for high risk elders in the community (Townsville community-based nurse 1).

...an increase in the ageing population (Townsville community-based nurse 3).

Extensive literature has been reviewed in this research regarding the overuse of emergency services by high-risk elderly patients. Correlations have been shown between 1) service overuse; 2) increasing age; 3) increased exposure to access block; and 4) the link between inadequate nursing home access, with overuse of the emergency department and even more traumatic experiences in the emergency department due to 5) older patients’ lack of familiarity with ED processes (Anaf & Sheppard, 2007c; Cameron & Campbell, 2003a; Cameron et al., 2002; Gordon, 2007; Moss et al., 2002; Wellstood et al., 2005). Therefore, the elderly patient’s experience in the emergency system is potentially more contentious than that of the average patient, given their predisposition to encountering service delivery problems within both the department and the community (Anaf & Sheppard, 2007c; Moss et al., 2002). One nurse reflected that inadequate support for the elderly in the community had a negative, cyclical influence on the care received by the patients as well as on the community health staff:

[Inadequate elderly support] impacts on workload as rehab services are very limited and clients are waiting long periods to be seen by ACAT, which delays services to the client. This is also impacted by no increase in ACAT staffing or funding over recent years (Townsville community-based nurse 2).

Interestingly, a proposed solution to the problem of inadequate elderly patient support suggested by a Townsville GP drew on the Melbourne model of care currently adopted by the Austin Hospital:

Question 9: *In your opinion, what may help the emergency department system to address these pressures?*

More beds in hospital. More nursing home beds in the community. Hospital in the Home, as in Victoria, run by VMO's [visiting medical officers] (Townsville GP 6).

Alternatives to inpatient hospitalisation, such as the development of Hospital in the Home (HITH) services and home-based medication reviews, have gained momentum over the last fifteen years as state and federal governments sought to contain health care costs (Duke & Street, 2003; Holland et al., 2005). The Victorian Department of Health Services (DHS) was a driver behind greater home-based medical intervention, arguing that transferring care to the community is a more conducive environment to healing and patient comfort (Duke & Street, 2003; Wilson & Parker, 2005). Evidence suggests, however, that the elderly's home-based needs can not be holistically and comprehensively provided through one strategy such as HITH alone (Duke & Street, 2003; Holland et al., 2005; Hughes, Hodgson, Muller, Robinson, & McCorkle, 2000). Rather, research implies that the increasingly high-care needs of elderly patients are better managed through a combined inpatient, outpatient and care-facility approach based on individual requirements, necessitating appropriate allocation of funds into the various care streams (Anaf & Sheppard, 2007a; Duke & Street, 2003; Holland et al., 2005; Hughes et al., 2000). Supporting the literature, Townsville community health staff appeared to lament the lack of access to community-based care facilities and funding for inpatient beds and community placements, which they believed had a negative effect on patient outcomes and worker support.

A final emergency system issue most pertinent to the Townsville community cohort was health professionals' poor understanding of issues regarding the *cultural safety and sensitivity* necessary for emergency patients. Townsville is home to a sizeable population of Aboriginal and Torres Strait Islander people, with projected population numbers for 2009 likely to reach 25,000 (Department of Local Government, Planning, & Sport and Recreation, 2007). The Townsville Hospital provides one of the main sources of primary and tertiary health care, and one Townsville physiotherapist felt compelled to share her concern that the emergency system did not understand the varying and changing health needs of the indigenous population. She wanted the research to acknowledge this as an issue:

[There is] inappropriate or inadequate training on cultural safety around indigenous clients. [The consequences are] indigenous clients do not present at early stages of condition (as they may feel unwelcome/unsettled/misunderstood). Conditions and patient presentations are "missed". Misinformation, communication difficulties...these pressures feed down the line as clients are disillusioned with the hospital (will not re-present, distrust). Clients are confused as to "what's going on with them". Clients are having diagnoses such as fractures missed and needing additional care. [I then have to] take additional time to explain to clients what the next steps are and allow time to reinforce, reassure and allow the opportunity for questions (Townsville physiotherapist 6).

Aboriginal and Torres Strait Islander people have been shown to use emergency services in Australia for treatment of illness over injury, and are recognised to have poor health

outcomes compared with the remaining Australian population groups (Johnston-Leek, Sprivulis, Stella, & Palmer, 2001). Aboriginal and Torres Strait Islander people are also more likely to be admitted to hospital through the emergency department (Johnston-Leek et al., 2001) and have been shown to attend emergency departments twice as often as other Australians (Thomas & Anderson, 2006). Little evidence is available on the practice of cultural safety in the emergency setting in Australia, suggesting it has yet to be given priority status in emergency research. Given the prevalence of indigenous groups in Townsville, it is also interesting that little comment was made about how the emergency department meets standards of cultural safety and sensitivity. This may imply that the department is adequately addressing the needs of indigenous Australians from the community sector's perspective, or that the participants were generally unsure about how appropriate care was administered to Aboriginal or Torres Strait Islanders through the emergency system.

7.4 Perceptions of emergency department physiotherapy roles

Health professionals in the community offered an alternative perspective to the patient cohorts as to the roles of ED physiotherapists. There were some clear, if not surprising, case differences. This was based on a combination of semi-familiarity with the concept of ED physiotherapy (the Melbourne cohort) and speculation as to how the role can address systemic emergency department problems (the Townsville cohort). Participants described four core clinical roles of ED physiotherapy; mobility and gait aids, musculoskeletal management, respiratory care and education; and discharge coordination.

7.4.1 Mobility and gait aids

Both cases agreed that a principal role of ED physiotherapy was to evaluate emergency patients' mobility status, as particularly reflected in the Melbourne cohort's responses. Some considered it a blanket expectation that physiotherapy would attend to mobility concerns, given the profession's relationship to balance and falls problems:

Assessment of clients' mobility – bed, sitting, standing (Melbourne community-based nurse 4).

To assess clients with specific physio needs – mobility issues, falls and balance issues (Melbourne community-based nurse 3).

To assess immediate risks of falling/mobility (Melbourne physiotherapist 2).

Treating patients with physio-type issues – mobility issues (Melbourne community-based nurse 6).

Others believed ED physiotherapy's assessment of mobility was to facilitate patient discharge, given that evidence of safety was a key emergency discharge criterion:

[Emergency department physiotherapy] ensures clients are able to walk safely before discharge (Melbourne community-based nurse 9).

Ensure safety (re: mobility) for return home (Melbourne physiotherapist 1).

Assess people's mobility prior to discharge (Melbourne community-based nurse 2).

No GPs in either case commented about physiotherapy's role in mobility assessment, indicating either a lack of familiarity with this aspect of intervention or uncertainty that this was a discharge criterion.

One physiotherapist in Townsville suggested that a main problem with the region's emergency department was the volume of patients and relative lack of inpatient beds, consistently raised in previous themes. To address these pressures he proposed that it would be useful to have a "rapid response service to support those not admitted, which has physiotherapy to do the mobility issues" (TPT1). Supporting this, a Townsville community-based nurse argued that physiotherapy was the most appropriate profession in the emergency department to "assess and treat mobility, [including] the ability to go up and down stairs" (TN3), and that the ED physiotherapist had the knowledge and skills to conduct "assessment of clients' immediate needs and causes of falls or reasons for admission" (TN2).

Physiotherapy offered a conduit to assisting patients within the emergency department as well as returning to the community by ensuring appropriate mobility status under a variety of circumstances. Mobility, patient safety and the chance to improve functional independence have been positively correlated to patient satisfaction with ED physiotherapy (Gordon, 2007). The community health professionals commented on the profession's perceived expertise in *prescribing gait aids*. Interestingly, this was only cited by the Melbourne cohort, and only by the nurses, who anticipated that ED physiotherapists would "provide clients with an appropriate gait aid" (MN9), "assess for frames etc" (MN6), and help with "crutches, ambulating post-limb problems" (MN7). Melbourne community-based nurses had a stronger perception of ED physiotherapy's role in mobility than any of the other community health professions investigated. One nurse provided a summary of the gait aid role, writing that:

[Emergency department physiotherapists] assess aids required [because] people need to have appropriate gait aids, commodes, bed sticks etc prior to discharge so as to reduce the risk of re-presentation (Melbourne community-based nurse 2).

7.4.2 Musculoskeletal management

Where the community-based nurses reflected on patients' mobility needs, the GPs in both cases consistently detailed ED physiotherapy's responsibility to manage acute musculoskeletal conditions. Most of the GPs had not heard of ED physiotherapy and were speculating on what the role could offer.

Question 11 a: *What do you believe are [emergency department physiotherapists'] current roles and responsibilities?*

To commence treatment for a musculoskeletal problem (Melbourne GP 2).

To assist in management [of a] range of musculoskeletal or soft tissue injuries. For example, sporting injuries (Melbourne GP 3).

Could deal with some of the musculoskeletal presentations... (Townsville GP 4).

Managing musculoskeletal conditions was appropriate for ED physiotherapists because their techniques could offer some pain relief for patients. For example, “*physio can ease pain and physio advice can be effective in soft tissue/joint...problems*” (MD4), and “[*there is a*] need for less analgesia in musculoskeletal conditions, and more effective management” (TD1).

Community physiotherapists saw musculoskeletal management as a core clinical responsibility. This included not only addressing the problem with hands-on treatment, but crucially involved management at an early stage of the patient's injury:

[Emergency department physiotherapy provides] assessment and treatment of acute patients with back pain – early musculoskeletal assessment for back pain – and to link in with outpatient treatment earlier (Townsville physiotherapist 4).

...early intervention regarding providing early management, advice and acute treatment (Melbourne physiotherapist 3).

Early musculoskeletal intervention was one way of improving patient outcomes (Kempson, 1996; McClellan et al., 2006) and patient satisfaction (Gordon, 2007) in the emergency department. Participants described musculoskeletal conditions as less severe, less urgent and therefore more appropriate for non-medical management in the emergency surrounds, and physiotherapy could offer “*assessment for minor injuries*” (TPT2). Early musculoskeletal intervention had the dual benefit of “*reducing the development of chronic musculoskeletal conditions*” (TPT3) and taking pressure off doctors and nurses to focus their attention on those genuinely requiring hospital admissions:

[Physiotherapy is] well suited to manage and treat a lot of the things people go there for such as sporting injuries (Townsville physiotherapist 2).

There is a need for more allied health intervention at an early stage to prevent admissions (Townsville community-based nurse 2).

I would hope that it would relieve time pressures on treating musculoskeletal patients and allow doctors to work on other problems (Townsville GP 2).

The expectation of musculoskeletal management was less prevalent from the community health professionals' perspective than the patient viewpoint. One theory is that the community sector had a more diverse picture of physiotherapy's clinical fields, offering deeper insight into how the clinical roles shape the department and other professions' responsibilities, such as mobility influencing functional independence and discharge, and musculoskeletal management freeing up doctors' schedules.

7.4.3 Respiratory conditions

An unanticipated perception of ED physiotherapy came from the Townsville community health professionals who saw a large role involving the management of *respiratory conditions*. This contrasts with Chapter 6, in which it was the Austin patient cohort who believed ED physiotherapists would manage chest conditions. Townsville health professionals across the spectrum saw physiotherapy as offering “*treatment of chest patients*” (TD6), “*treatment of chest infections and pneumonia*” (TD1), and “*assessment of limited types of presentations, [including] cardiorespiratory*” (TPT7).

It was difficult to ascertain from these findings whether Townsville experienced a high burden of chronic respiratory disease (e.g. asthma, emphysema), or why Townsville participants associated physiotherapy with chest ailments more strongly than mobility, for example. One physiotherapist speculated that “*early respiratory intervention [can] decrease the length of stay for respiratory patients*” (TPT4), implying that the prevalence of chest patients attending the emergency department did not accurately reflect the number who eventually required admission. This remains speculative, as coordinating the management of respiratory conditions has received scant attention in the ED physiotherapy literature (Anaf & Sheppard, 2007a; Kempson, 1996), which does not reflect the prevalence of respiratory patients requiring emergency visits or physiotherapy attention, given chronic respiratory disorders such as asthma are listed as one of the seven National Health Priority areas for Australia (Australian Government, 2006).

Management of respiratory conditions was briefly acknowledged by community-based nurses in Melbourne. They mainly described ED physiotherapists as doing “*deep breathing and coughing exercises . . . [and] to teach breathing and coughing*” (MN7), although one nurse also saw physiotherapists as being needed “*to assess respiratory function prior to*

discharge” (MN2). This complemented the earlier finding in section 7.4.1 (mobility and gait aids) that physiotherapy in the emergency department has a key role in evaluating patients for safety and functional independence before they are sent home.

7.4.4 Education and discharge coordination

According to the Melbourne community health professionals, education and advice given by ED physiotherapists was strongly correlated with helping patients be discharged. Nurses were particularly reflective about this theme, followed by the physiotherapists, describing ED physiotherapy as offering “education regarding acute injuries and home rehabilitation” (MN8):

Education re: HEP [home exercise programs], chest physio etc... (Melbourne community-based nurse 4).

Giving advice to patients (Melbourne physiotherapist 3).

Education for short stay clients i.e. bone fractures (etc), and to encourage mobility for those in A and E department (Melbourne community-based nurse).

Part of the role of education was to prepare patients to return home. One nurse commented that ED physiotherapy involves “assessment, education, short term management strategies [and] referral” (MN1). Short term management strategies included:

Assessment of client’s safety to return home... (Melbourne community-based nurse 4).

Referral to appropriate community service programs (Melbourne community-based nurse 9).

In Townsville, this more specifically involved “facilitating discharge planning” (TPT3), supported by a GP who thought that ED physiotherapy “may allow discharge of patients rather than admission” (TD5). Therefore, education and discharge coordination not only supplemented patients’ knowledge of their condition and the emergency experience, but it theoretically helped to direct patients away from being unnecessarily admitted by offering a different clinical or discharge perspective about the patients’ problems and management options.

7.4.5 No viable role

Although many of the participants had not heard of ED physiotherapy, only two clinicians (one from each case) could see no viable role for it. Interpretation was that they could not correlate the ‘urgency’ of emergency department caseloads with physiotherapy management. One Melbourne GP quite simply wrote that “I doubt whether there is any part for them to play – I can’t see a role for them” (MD1). However, a Townsville nurse provided greater

insight into the perceived barrier to translating physiotherapy into the emergency department:

I am struggling to understand why EDs would require physiotherapy. There is very little physiotherapy work that is 'urgent'. Surely clients could be referred to an outpatient physio department. However, if in fact physios are seeing clients/patients in ED prior to their admission, that is a different matter. I see that they are simply commencing a course of treatment (Townsville community-based nurse 1).

Emergency department physiotherapists are clinically capable of attending to certain emergency patients whether they are to be admitted to hospital or not (Anaf & Sheppard, 2007c; Jibuike et al., 2003; McClellan et al., 2006). However, given that a large number of health professionals in the community had not heard of ED physiotherapy before, it was expected that the relationship between 'emergency' and 'physiotherapy' was difficult for some to visualise. Noteworthy was the large percentage of respondents who could picture a viable role for physiotherapy in the emergency department, as outlined in the previous themes.

In summary, both cohorts described ED physiotherapy's clinical responsibilities as including mobility assessment, gait aid prescription, respiratory management, and education and discharge of emergency patients. While many had not heard of ED physiotherapy prior to the research, and a very small number could not see a viable contribution to the department, an overwhelming majority of participants articulated several possible clinical roles for physiotherapy in the department, and how this positively influenced other professions' work in the system.

7.5 Qualities of emergency department physiotherapists

7.5.1 Client-centred care

Physiotherapy was considered a credible addition to the emergency department because of its emphasis on *client-centred care*, mentioned by both cases. Client-centred care was meaningful in the emergency department environment because, as one nurse described, it focussed attention on the patients to soothe the fear and anxiety of entering a busy and foreign facility:

Older people often feel concerned when presenting to the ED via ambulance that 1) they can't take their own gait aid, and 2) often they do not have their glasses, hearing aids etc, and are overwhelmed by all the people who visit them at the bedside (Melbourne community-based nurse 2).

Emergency department physiotherapists were regarded as particularly sensitive to patients' emotional and physical needs, meaning they provided a complementary, thorough service

that benefited the patients and the staff in the emergency department. This was evidenced by the repeated use of the term *holistic* to describe physiotherapy:

[Emergency department physiotherapists are] helping with identifying other needs of clients – holistic assessment of clients' needs while in the ED (Melbourne community-based nurse 3).

[They have] a more holistic approach – (bigger picture) (Melbourne physiotherapist 1).

Many Melbourne participants were informed individuals who had experience with the care provided by Austin Hospital's ED physiotherapy service. However, the participants from Townsville had not previously heard of, or worked with, ED physiotherapists when they reflected on the same client-centred quality:

Question 11b: *Why do you think emergency department physiotherapy is starting to be used by hospital emergency departments?*

To give more 'holistic' care to the patient... (Townsville GP 6).

...more holistic care of patients... (Townsville GP 1).

The physiotherapy profession was seen to offer well-rounded care to patients on a psychosocial as well as clinical level in the emergency department, although details are not explicit within the questionnaire comments. It was difficult to ascertain what the community saw as the benefit from a 'holistic approach' – for example, was it limited only to patients feeling more reassured during their emergency department stay, or were the participants implying that physiotherapists determined additional clinical findings and treatment options by offering more holistic care than the standard medical model of patient management?

Emergency department physiotherapy transcended the emergency department-community boundary by having equal roles in first-contact management of patients as well as negotiation of community services such as Meals on Wheels upon discharge (Anaf & Sheppard, 2007a). Other allied health professions such as occupational therapy and social work also negotiated the emergency department-community barrier by checking on patients at home, linking patients in to community health programs and educating them on the appropriate use of clinical services (Moss et al., 2002; Taylor et al., 2004). There is merit in inferring that the holistic, client-centred care involved assisting patients along a continuum of care from first-contact intervention to returning to the community, as well as managing patients' psychosocial demands in conjunction with other more appropriately qualified allied health staff.

7.5.2 Streamlining and prioritising care

One of the most frequently described qualities of ED physiotherapy was its ability to *streamline and prioritise patient care* in the emergency department setting. For most, ED physiotherapy would theoretically improve early intervention, reduce unnecessary referrals and centralise care within the department:

Ideally [collaboration between emergency department physiotherapy and the community] would streamline the process of follow-up for clients and assist in the prevention of representation to the ED, therefore reducing numbers of possibly unneeded ED occurrences (Melbourne community-based nurse 3).

[There is a] clearer, more direct referral pathway. Eliminating processing from multiple intake units (Melbourne physiotherapist 4).

There is a need for more allied health intervention at an early stage to prevent admissions (Townsville community-based nurse 2).

Early intervention to address acute musculoskeletal injuries should decrease outpatient waiting lists in the physio department (Townsville physiotherapist 3).

Improving the flow of patients and reducing hospital admissions was a concern for the community due to the apparent incapability of hospitals to house the volume of emergency department patients. When hospitals struggled to cope, participants were adamant that this caused ‘overflow’ into the community sector. Community program referrals increased with limited resources to meet the need. It is therefore pertinent that one of the main qualities described of ED physiotherapy was its ability to facilitate a streamlined approach to care that the community sector considered meaningful.

Prioritisation of patients not only assisted the emergency department to operate more efficiently, it had obvious benefits for the patients and their conditions. Streamlined care could “assist with early detection of physio-related issues” (MN3) and permit “case planning with a specialised early intervention unit” (MPT4). According to the physiotherapists, clinical benefits for the patients ranged from encouraging patients to be proactive in managing their conditions to making sure that they had support services at home:

[It] gets patients home (prepares patients for self management or treatment in the outpatient setting/community setting) (Townsville physiotherapist 4).

It can set clients up for any immediate risks until they get some help from a community health centre or Community Link physio (Melbourne physiotherapist 2).

...improve efficiency, improve client outcomes (Melbourne physiotherapist 1).

Demonstrating the clinical benefits of ED physiotherapy was crucial to show the position’s viability. Evidence of this included alleviating symptoms, improving mobility or enhancing

recovery in any way. For example, ED physiotherapy offered “timely intervention to reduce the time of recovery related to injuries” (TN5) and “earlier input to prevent further exacerbation” (TD5). This had advantages upon discharge, as suggested by a Melbourne community-based nurse, because ED physiotherapy was known to prescribe “home exercise programs to maintain mobility – [encouraging] possible prevention of re-presentations, prevention of complications (e.g. chest infections if no chest physio provided)” (MN9).

Part of the streamlining processes encouraged of ED physiotherapy was a role in the triage of patients. Several physiotherapists reported the triage process as an appropriate physiotherapy domain, with one Townsville clinician arguing that “physios have shown during the Vietnam war that they can triage as well as other disciplines” (TPT1).

Question 11a: *What do you believe are [emergency department physiotherapists’] current roles and responsibilities?*

Triage – setting up referrals, prioritising (Melbourne physiotherapist 3).

Triage role for appropriate clients. Treat, advise, refer as appropriate (Melbourne physiotherapist 1).

Triage, referring on to appropriate agencies (Melbourne physiotherapist 3).

The Austin Hospital model of ED physiotherapy did not involve physiotherapists in the triage process. This was staffed exclusively by nursing and medical disciplines. Therefore, unless the participants were uninformed about how the Australasian Triage System operated, it may be deduced that by the term ‘triage’ they were more loosely describing a role in helping to discharge low-risk patients home, attend more quickly to patients with more severe pain, or encourage the provision of community services sooner to higher-risk patients. From the lack of detail provided in the responses, it was difficult to determine the true meaning of ‘triage’ inferred by the participants.

7.5.3 Advanced clinical standards

[Emergency department physiotherapists have] responsibilities to provide quality systematic assessment and intervention (Townsville physiotherapist 6).

Emergency department physiotherapy was strongly perceived to offer a *high standard of clinical knowledge* that could benefit the department and the patients. This was best summarised by the opinion of a Melbourne community-based nurse, who felt that the “use of physio knowledge to assist patients at the time of presentation and ongoing follow-up management would be best for these patients” (MN3). The theme of clinical knowledge was separated into sub-themes which indicated participants believed physiotherapy offered an

above-average contribution to the department. Core themes were raised in section 7.4, and the specific benefits of each clinical role received independent comment. For example, mobility and rehabilitation was considered a physiotherapy domain, and ED physiotherapy was “required and essential as the ability to mobilise safely is a key indicator for discharge” (TN3). They provided “comprehensive, timely, accurate assessment and treatment of mobility issues” (TN3), and “add[ed] mobility expertise to initial assessment” (TPT3).

Emergency department physiotherapists were trusted to use their clinical knowledge to help discharge patients safely. They offered “safer discharge because they’re able to provide gait-aids [and] education” (MN9), and “safer discharge of older persons admitted to ED following falls – [a] reduced risk of representation” (TN5). In general, ED physiotherapists “not only use their physio knowledge but are skilled at identifying other relevant needs the patients may have and addressing these as well” (MN3). Physiotherapists also had the right knowledge base to provide accurate and timely referral to community organisations. They could “streamline the clinical decision making process” (MPT4) and offer “referral on to appropriate services or health care workers or programs” (MN3). Most importantly, ED physiotherapy was believed to offer “a first line intervention and careful planning/follow-up . . . to ensure good client outcomes. Physios are linked in with multiple stakeholders and may be seen as the ‘link’ person” (TPT6). The latter comment inferred that ED physiotherapists’ skills made them effective in multidisciplinary team structures: the ‘link’ profession. As one Melbourne physiotherapist noted, by “assisting effective clinical decision making and treatment” (MPT4) an important systems theory link was made.

The involvement of physiotherapy in the emergency department system offered another dimension, or element, of clinical knowledge. The overall picture offered from the community was that “the more input and multidisciplinary problem solving that happens in the ED, the better!” (TN3). Adding physiotherapy to the mix of staff and patients in the emergency department has an impact on the operation of the system by changing the clinical knowledge base available to the department and the external community health providers. The addition of physiotherapy to the emergency department system could improve ‘the system’ because the whole emergency system is greater than the sum of its individual parts. Community participants have cited improved clinical knowledge on mobility, discharge needs and multidisciplinary decision making as a valuable addition to the system from physiotherapy.

7.5.4 Departmental and clinical efficiency

Efficiency was the final quality of ED physiotherapy described by the community sector. Efficiency has important ramifications for emergency departments because it facilitates patient through-put, reducing the impact of systemic problems like waiting times (Duckett, 1998; Dunn, 2003; King, Ben-Tovim, & Bassham, 2006):

I would hope that it would relieve time pressures on treating musculoskeletal patients and allow doctors to work on other problems (Townsville GP 2).

Quick treatment prior to discharge and decreased need for admission (Townsville GP 3).

[Emergency department physiotherapy can] assist in outpatient transition for patients who do not require admission (Melbourne GP 3).

Physiotherapy efficiency at the micro-level of the emergency department had implications for improving the workload in the community, and was described favourably by the community participants. It allowed “treatment to occur or start straight away and helps people be discharged quicker” (MD1), which in turn meant that physiotherapy was “using other health service providers to deal with the volume of cases” (MD1), most obviously causing a “reduction in waiting times for other physio services in the ambulatory care setting” (MN1). Efficiency with administering clinical interventions also enhanced the streamlining of ‘frequent flyers’; those patients who intentionally or unintentionally rely on the care of the emergency department staff to improve their health and social outcomes. Emergency department physiotherapy “makes the ED more efficient for those clients who present to ED on a regular basis. It can reduce hospital admissions and decrease people presenting to the ED again and again” (MPT2).

Hospital emergency departments have been described as a social safety net for people who are homeless, poorly supported in the community or repeatedly ill (Malone, 1998). Some community health participants anticipated that patients’ attitude towards the emergency department being both a first and last resort for health and care was a related burden to the department, evidenced by the volume of patients. While data is scant, preliminary studies suggest that models of allied health use in the emergency department setting make a positive contribution not only to the efficiency within the department (McClellan et al., 2006), but also to more efficient and consistent community management of patients upon discharge (Moss et al., 2002; Taylor et al., 2004). Efficiency was also a clinical outcome measure strongly associated with patient satisfaction in the emergency department (Watt et al., 2005).

7.6 Relationships of emergency department physiotherapy to the community

7.6.1 Professional relationships

Professional relationships are a concept at the heart of this research. The systems framework explored where the professional boundaries lay when adding physiotherapy to the emergency department skill mix. Community health professionals reflected on who the physiotherapist was likely to work with in the emergency system. Unsurprisingly, the core relationships involved medicine and nursing. Physiotherapy's interactions with doctors in the emergency department were most frequently cited, with reasons including:

Medical staff – determining medically safe patients, x-ray reviews, other impending medical issues (Melbourne community-based nurse 3).

ED registrars – they can think laterally and [are] experienced enough to recognise serious and non-serious injuries (Townsville GP 2).

Doctors – quick link to further info re: patients. Easy request for further investigations (Townsville physiotherapist 4).

There is limited meaning behind the written responses as to why the medical and nursing staff were at the heart of the system's relationship with physiotherapy – most participants simply wrote 'doctors' or 'nurses' for their response. However, when interpreting some of the more detailed answers, a relationship between physiotherapy and emergency doctors existed because it helped physiotherapy seek permission for further tests or investigations. It also allowed the physiotherapist to have back-up cover in determining whether patients were appropriate for sole-physiotherapy intervention. Descriptions of a relationship between physiotherapy and emergency nursing focussed on skills the two professions shared, which could complement each other's workload. For example:

Nursing staff – assisting in determining any ongoing nursing needs that may impact on physio decisions (Melbourne community-based nurse 3).

Nurses – mobility capacity and assistance (Townsville physiotherapist 3).

CHIP nurse – to ensure holistic approach to the discharge of client (Townsville community-based nurse 5).

Nurses – generally more accessible and helpful with regards to accessing equipment etc (Townsville physiotherapist 4).

Despite doctors and nurses being logical partners with physiotherapy, given their dominance in the emergency setting, other health professionals were described as key collaborators, including ward-based and private physiotherapists, occupational therapists and social workers. Explanations of these partnerships included:

Occupational therapists – to identify any needs [or] aids the patient will find essential, especially those with mobility issues (Melbourne community-based nurse 3).

Social workers – identifying other non-medical issues of importance for the patients (Melbourne community-based nurse 3).

OT for home assessment; social worker to organise social problems, physio at community health centre/ private for ongoing care (Melbourne physiotherapist 2).

Melbourne-based participants made most of the comments about ED physiotherapy's liaison with other allied health professions, with little discussion raised in Townsville. One possible reason was that emergency doctors and nurses made up the core staffing component of the Townsville Hospital, a reasonable contrast to the Austin Hospital where emergency department social workers, physiotherapists, occupational therapists, aged care nurses and speech pathologists had been integrated into the ground-level team for several years (Anaf & Sheppard, 2007a; Hough, 2003). Arguably, the role of non-traditional emergency staff working for the Austin Hospital is more widely understood than in Townsville, where community health professionals are less likely to reflect on physiotherapy as having relationships with other equally non-traditional roles that may not be implemented currently.

Townsville participants made strong suggestions that ED physiotherapy would theoretically have direct relationships with non-government organisations (NGO) and community facilities. For example, one nurse believed that ED physiotherapists would have networks with “stakeholders such as ACAT and others in the service provision of the client” (TN2), with a physiotherapist also describing links to “community organisations – HACC ... Meals on Wheels” and “non-government therapy organisations” (TPT6). Another Townsville physiotherapist argued for a “JCU, APA, THSD, GP division collaborative” (TPT1)¹⁶ as the ultimate partnership, blending tertiary education with medical governing bodies to ensure continuity and exposure of the ED physiotherapy field, if permanently established in Townsville.

7.6.2 Linking emergency department physiotherapy to the community

One of the questions posed explored the connection between physiotherapy's role in the emergency department and the potential for any collaboration or liaison with health professionals in the community.

¹⁶ James Cook University (JCU), Australian Physiotherapy Association (APA), Townsville Health Service District (THSD).

Question 12a: *To what extent will emergency department physiotherapists collaborate with health professionals in the community (including your profession), and why?*

The strongest theme raised was the potential for ED physiotherapy to be the link between the micro-system (the emergency department) and the macro-system (the community), because there is a perceived breakdown of communication between the two. This is despite a push to reduce hospital admissions in favour of community management of patients. Examples previously raised in section 7.3 included poor discharge planning information provided by the emergency department to GPs; limited community access to case notes and medical information of patients obtained during the emergency department consultation; and an expectation for community health programs to cater equally to the volume of patients discharged from the emergency department, without necessarily an increase in funding or staffing to manage this. Thus, the question posed was important to probe how the community sees physiotherapy assisting it, if at all, even from its base in the emergency department.

Community referrals and patient handovers were one of the main links between ED physiotherapy and the community sector. In Townsville, where no official ED physiotherapy system is in place, it was the physiotherapists who were driving this idea, speculating that it was one way to achieve better continuity of care:

[Emergency department physiotherapy could facilitate] patient handovers, i.e. provide info back to community physios for community patients who may have acute episodes that require ED admissions (Townsville physiotherapist 4).

Written referrals to community physio for follow-up post-discharge. Good to have a system in place to maximise communication between the two (Townsville physiotherapist 5).

Collaboration between the ED physiotherapist and the community through appropriate referral channels was also positively described by the Melbourne cohort, many of whom had experience working with the ED physiotherapist. For example, those who had regular dealings with ED physiotherapy described the ongoing input:

[Emergency department physiotherapy collaborates] most of the time – for some ongoing help e.g. exercise classes, home-based physio, hands-on physio, providing gait aids, progressing exercises. . . (Melbourne physiotherapist 2).

...to refer appropriately and efficiently and to link in with resources in the community (Melbourne physiotherapist 3).

Others speculated that even if ED physiotherapy did not consult their services directly, there would be a need for referral to the community sector to ensure best continuity of care:

Will depend on any ongoing care needed – I assume they will liaise closely with community physio if ongoing care required, and with GP / RDNS [Royal District Nursing Service] if 'medical care' (e.g. medications) needed. Also with employer/Department of Social Services etc... (Melbourne GP 3).

[Emergency department physiotherapy can] identify chronic disease causes/issues. Start client-directed interventions and service plans to prevent and manage the problems... (Townsville physiotherapist 1).

Participants generally agreed that open communication and referral systems were essential between the emergency department and the community sector to help ensure best patient outcomes. As one Melbourne nurse pointed out, “collaboration only takes a phone call or email” (MN6). Emergency department physiotherapists could “fax their findings to the GP in a similar method to the ED doctors” (MD2) or “send a summary of treatment issued” (TD5). Health professionals, especially nurses, believed having physiotherapy as a conduit between the emergency department and the community would ensure appropriate and efficient referrals to community health programs. For example, “to provide referral information to our program, to assist/inform assessment/core planning at home” (MN4); “...to ensure a consistent approach to client care – smooth continuum” (TN5); and to “continue to think about ongoing referrals – not just short term, but also long term...” (MN2). It was inferred that health professionals, regardless of which case they came under, saw a strong role for ED physiotherapy in the community via a process of communication and referral, which helped patients transition from the emergency department to home (the continuum of care), as well as filling the current information void regarding discharge planning and patient information, and accurately referring patients to community services.

7.7 Discussion

Very little research exists highlighting the links between the community health sector and the emergency department. This chapter has investigated 35 community health professionals' perceptions of ED physiotherapy in Townsville and Melbourne using a qualitatively-structured questionnaire. Cases generally agreed on ED physiotherapy's roles, the positive qualities of the service, and how the position had the potential to develop networks and relationships with the community sector (Table 14). Participants in both cases focussed on strategies to enhance the clinical care given to patients, prioritise patients to improve departmental efficiency, and augment collaboration and information exchanged between the department and the community sector upon patient discharge. Many of the themes were related to a breakdown in communication and collaboration within the system. Participants were acutely aware of the value of quality discharge planning and education to make the patients' transition to the community easier.

Table 14: Case comparison of community health professional thematic analysis

| <i>Theme</i> | <i>Stronger perception: Townsville cohort</i> | <i>Equally strong case perceptions</i> | <i>Stronger perception: Austin cohort</i> |
|--|---|--|---|
| Section 7.3 Emergency system challenges | | | |
| Long waiting times | | | |
| Overuse of ED | | | |
| ↓ inpatient beds | | | |
| Quality of staff | | | |
| ↓community connection | | | |
| Poor discharge plans | | | |
| Inappropriate GP use | | | |
| Aged care sector | | | |
| Cultural safety | | | |
| Section 7.4 Perceptions of emergency department physiotherapy roles | | | |
| Mobility and gait aids | | | |
| Musculoskeletal mx | | | |
| Respiratory mx | | | |
| Education/ discharge | | | |
| No viable role | | | |
| Section 7.5 Qualities of emergency department physiotherapists | | | |
| Client-centred care | | | |
| Streamline & prioritise | | | |
| ↑ clinical standards | | | |
| Efficiency | | | |
| Section 7.6 Networks and relationships of emergency department physiotherapy to the community | | | |
| Professional networks | | | |
| -Doctors and nurses | | | |
| -Allied Health | | | |
| - NGOs | | | |
| EDPT & community | | | |
| - community referrals | | | |

7.7.1 Negotiating the emergency system

While both cases had many criticisms about their emergency department systems, both criticised different aspects of the emergency department process. The Townsville and Melbourne cohorts agreed that two of the biggest problems in emergency departments were excessive patient waiting times and general overuse of the department. Melbourne community health professional criticisms then progressed to problems linking the emergency department with the community sector. These included the poor quality of emergency department discharge communication, which had been noted in previous research as an important precursor to the continuity of patient care (Anaf & Sheppard, 2007a; Moss et al., 2002). In contrast, the Townsville cohort were concerned about resourcing difficulties in the emergency department and the community, such as a lack of inpatient beds and dedicated aged care facilities to provide ongoing support (Australasian College of Emergency Medicine, 2004a; Cameron & Campbell, 2003b; Warbuton et al., 2004).

Improving cultural safety and management to accommodate the needs of indigenous residents was also particular to the Townsville community, an issue previously shown to be a barrier to health information uptake in the emergency department (Stuart et al., 2003). In general, both cohorts of doctors and nurses working in the community were critical of the lack of discourse between the emergency department and the broader community sector. Many felt insufficient information was provided as to the nature of health information gathered and treatments administered in the emergency department to allow them to continue care in the community.

Government reports (e.g. Forster, 2005) have criticised a perceived lack of community follow-up after discharge and many studies propose that patients use emergency departments when they believe their usual source of health care (typically GPs) can not adequately meet their health needs (Cunningham et al., 1995; Koziol-McLain et al., 2000; Sarver et al., 2002). This study reveals that despite criticism of the community sector for often causing patients to seek care via emergency departments, there is reciprocal discontent in both cases with the emergency department once the department has completed patient care. A lack of community health pathways and community resources such as aged care facilities caused many GPs, nurses and physiotherapists to feel they had been 'handballed' the difficult cases once patients had been stabilised. Poorly detailed discharge plans saw both cohorts critical that workforce time and resources were wasted finding patient details, determining appropriate health interventions, and re-educating patients and families about their health problems.

Research has shown that strategies which actively seek to coordinate patient care in the emergency department with ongoing community management lead to more highly satisfied emergency and community staff and patients (Moss et al., 2002). The participants in this study aspired to having improved levels of emergency department-community sector collaboration and communication.

7.7.2 Physiotherapy adding dimensions to care

Most community health professionals are united in their opinion of what physiotherapy can offer the emergency department; expertise in mobility assessments, gait re-education and musculoskeletal management (Anaf & Sheppard, 2007a; McClellan et al., 2006; Richardson et al., 2005). This reflects the commonly held perceptions of physiotherapy's expertise as outlined in the definitions of physiotherapy practice and the limited research on the public's perception of physiotherapeutic care (Australian Physiotherapy Association, 2004; Sheppard, 1994; Struber, 2003, 2004). Community health professionals in Melbourne further

cite an expectation that ED physiotherapy can add a strong educative component to emergency care (Anaf & Sheppard, 2007a; McClellan et al., 2006), reflecting their previous worries that the emergency department did not properly educate patients and their families. This was a shared perception with the Austin Emergency Department patients who considered physiotherapists to be good educators and explainers of information, as supported by previous patient satisfaction studies (Gordon, 2007; Kempson, 1996; McClellan et al., 2006).

Townsville community *health professionals* expect physiotherapy to provide management of respiratory conditions more so than the Melbourne cohort, contrary to the images of a warm tropical climate that do not conjure a logical connection to respiratory ailments. In Chapter 6, however, Austin Emergency *patients* more readily identified ED physiotherapy with respiratory care. Following analysis of the community health professionals' responses, it is unclear why this case difference exists. There has been little investigation into ED physiotherapy's role in respiratory care. Only one older study has mentioned this dimension of physiotherapy intervention, and it was in the context of UK practice (Kempson, 1996). No further detail is provided by the Townsville cohort as to why respiratory conditions would be best managed by physiotherapists. There is no indication in this study, or in any literature to the present, that Townsville's population experiences greater levels of chronic or acute respiratory disorders.

The most telling findings in this study are those that outline how the community sector believes physiotherapy will add dimensions to improving the quality of emergency care. Both cases agree that ED physiotherapy will be very client-focussed. Taking a holistic approach to patient management, using personable strategies such as asking clients questions, actively listening and taking the time to set patient goals are known to be positively received by patients (Gordon, 2007; Hostutler et al., 1999). The community sector in both cases advocates for a more holistic approach to patient care, as it allows consideration of the patients' 'bigger picture' during their acute hospital visit. Both cases also agree that while being client-focussed, ED physiotherapists are expected to offer advanced clinical standards to patient care. This includes having a timely knowledge base and being very secure in the boundaries of their professional scope, as well as being able to direct patients to other health professionals as appropriate.

Emergency department physiotherapists are recognised as being senior clinicians with years of advanced training (Jibuike et al., 2003; McClellan et al., 2006; Smith & Buckley, 2004). This study reaffirms previous research by showing that community health professionals are

most comfortable with physiotherapists having a high level of experience. They see ED physiotherapists as experts, particularly with mobility, and their expertise allows for accurate patient follow-up and thorough patient planning during their emergency stay, which ultimately fosters a relationship built on trust with the emergency staff and community sector (Anaf & Sheppard, 2007c; Moss et al., 2002; Phillips et al., 2006).

Townsville and Melbourne cohorts agree that ED physiotherapy can add a positive dimension to the department's efficiency, which, with the ability to deal with the volume of patients, is central to the solution of service delivery problems such as access block and emergency department overuse (Dunn, 2003; Forster, 2005; King et al., 2006). Community health professionals describe a relationship between using ED physiotherapists and having musculoskeletal or non-urgent patients discharged more quickly. Therefore, having ED physiotherapists is one strategy for reducing the overall volume of patients waiting in the emergency department. This is confirmed by a previous study that found ED physiotherapists attend to musculoskeletal patients most quickly, spend the greatest amount of time with them in consultation, and discharge patients earliest (McClellan et al., 2006).

The biggest case discrepancy is in debating how well physiotherapy improves streamlining and prioritising of patient care in the emergency department. The Melbourne cohort appears very positive about this added service delivery benefit. They describe ED physiotherapy as helping to provide better early patient intervention and more consistent referral pathways for patients, as previously recognised by Jibuike et al. (2003), Anaf and Sheppard (2007a), and Taylor et al. (2004). While the Townsville cohort do not disagree with this notion, they have less experience of witnessing ED physiotherapy in action; a lesser basis for commenting on the extent to which care is streamlined and prioritised. While speculating that ED physiotherapy would enhance early intervention, which could have clinical benefits, they reserve opinion as to how it could make emergency care more efficient.

7.7.3 Building relationships and defining roles

Health professionals in the community detail logical professional relationships in the emergency department. Physiotherapists are thought to work closely with emergency doctors, emergency nurses, emergency department occupational therapists and social workers. Very little is documented about physiotherapy's connection to other emergency allied health professions. A study by Anaf (2005) described the relationship between ED physiotherapy, occupational therapy and social work as occurring in the latter stages of an emergency patient's stay. These allied health divisions interchangeably organised home-based supports and implemented community services (Anaf, 2005; Anaf & Sheppard,

2007a). The community health professionals in the current study have provided minimal comment on how and why collaboration with occupational therapy and social work, for example, is anticipated. Is it in the context of a care coordination role, or is it merely a guess that other allied health professions would be closely linked?

There is a tendency for emergency allied health and nursing staff to ‘cross-pollinate’ roles; to learn each other’s skills (Anaf & Sheppard, 2007a), allowing emergency allied health services to extend their management outside of normal working hours (Anaf & Sheppard, 2007a). For example, aged care nurses are taught to prescribe basic gait aids, while physiotherapists learn to conduct ACAT¹⁷ assessments (Anaf & Sheppard, 2007a). By staggering the different professions’ working hours in the emergency department, the basics of each profession can be provided by any allied health person on duty. While emergency allied health professionals are known to share roles (Anaf & Sheppard, 2007a), there is no indication that the community health professionals are aware of this. Therefore, education about the appropriate professional relationships between emergency staff, physiotherapy and the community sector could be worthwhile. This would allow community health professionals to better understand how the emergency system works and what allied health services may be provided.

Both community health cohorts proposed that ED physiotherapy’s main role would be at the point where patients were stabilised and due to be discharged. Being a pivotal part of this ‘transition’ stage meant physiotherapists needed to adapt their professional relationships according to the stage of the patient’s journey. For example, during the acute phase of injury, the physiotherapist must collaborate with the emergency doctors and nurses to provide symptom relief and stability to the patient. As the patient improves, the physiotherapist must build a working relationship with the discharge nurses, occupational therapists and social workers in preparation for discharge.

While research has previously criticised fragmentation of roles within the emergency staff (e.g. nurses for triage, phlebotomy and general care) (Nystrom et al., 2003), community health professionals infer that ED physiotherapists build professional relationships throughout the continuum of patient care. Rather than employing several clinicians to manage independent workloads, the community cohorts envisage a physiotherapist who can adapt to the acute and discharge planning stages of patient care, and form relationships with the necessary staff along the way. Once a patient has transitioned to the community, GPs, community-based nurses and physiotherapists see the main role of ED physiotherapists as

¹⁷ ACAT: Aged Care Assessment Team.

facilitating patient handover. Both cases are encouraged by what they see as physiotherapy’s ability to provide accurate and current details surrounding patient care.

7.7.4 Perspectives on ‘the system’

Many participants are critical about the lack of collaboration between the community health sector and the emergency department, compromising patients’ care as they transition back into the community following their hospital visit. From a Townsville cohort perspective in particular, there is no clear entry or exit point with the emergency department that allows the community sector to easily communicate with emergency staff; the emergency department boundary isolates health professionals in the community (Figure 28). The system therefore relies on the individual clinicians, both within and external to the emergency department, to seek out staff and patient discharge information in a less-than-coordinated way.

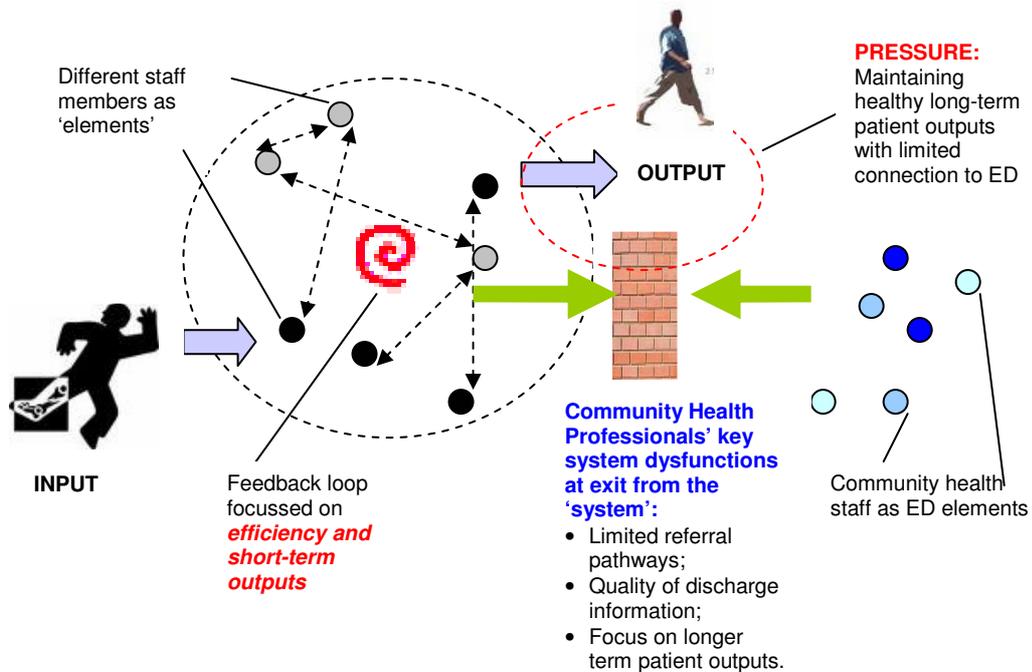


Figure 28: Community health professionals’ perspectives on the system

This is less of a problem at the Austin Hospital because clearer referral pathways have been forged between ED physiotherapists, occupational therapists, social workers and the allied health staff at Community Link. However, staff external to the emergency department are critical of what they see as a reduced capacity to ‘bridge’ the boundary. Patients may attend the emergency department regularly or infrequently, but many participants criticise both the lack of discharge detail provided to them, as their community health liaison, and the quality of information relayed to the patient (Figure 28). This is particularly relevant to the quality of education and information provided to patients in order to better self-manage at home.

The majority of participants are eager for a collaborative relationship to exist between the emergency department and community health professionals, more-so than is presently enforced. Many consider physiotherapy to be a logical 'link' between the two sectors. As efficiency is a hallmark of the emergency department system, even its culture, the system should be open to dynamic referral pathways in and out of the department as a way of better enhancing patient throughput and follow-up. Components of patient care demanding time, such as detailed health information or integrating health plans into a culturally sensitive framework (e.g. with Indigenous patients' health needs in Townsville), can be appropriately and effectively continued in the community health sector, providing that an accurate foundation of health information is commenced within the emergency department, and explained to community health care providers more thoroughly and consistently upon patient discharge.

Emergency department physiotherapists have a role in the homeostatic cycle of the emergency department. As physiotherapists assume certain roles and patient responsibilities, other stakeholders adjust their work to balance the needs of, and demands on, the system. Emergency department physiotherapists may help regulate the volume of patients both in and out of the department, acting as a boundary 'bridge' for many patients. They can also encourage a longer-term view to patient improvement by liaising with doctors, nurses and other physiotherapists in the community, alleviating the burden of referral from other emergency department staff members.

7.8 Conclusion

This research is the first known investigation into the links between ED physiotherapy and the community health sector. There is a clear undercurrent of discontent with the organisation, funding and resourcing allocated to community and emergency department services. Many criticisms are raised regarding inappropriate GP use, a poorly supported aged care sector, insufficient hospital bed numbers and unhelpful discharge communication between the emergency department and the community sector. Participants in Townsville are especially frustrated with how the community health sector interacts with the emergency department, and with the perceived lack of resources afforded to community health care. It is difficult to determine beyond speculation whether the fact that the Austin Hospital has an ECCT in situ has made a significant difference to coordinating care with the community, given that Melbourne participants did not document as many frustrations with the current emergency system as the Townsville cohort (Table 14). However, the Melbourne cohort describes more consistent and effective collaboration as a result of ED physiotherapy's

implementation into the Austin Hospital system.

Health professionals in the Melbourne and Townsville communities are interested in promoting better discharge information and patient detail from the emergency department. They expect physiotherapists to provide out-of-department management options, such as education and exercises. Particular value is placed on the potential for ED physiotherapy to streamline and prioritise care by encouraging clear referral pathways, early allied health intervention and, ultimately, effective management of patients so they do not consistently re-attend the emergency department. Community health professionals in both cases are generally interested in forging stronger links between community health and the emergency department, and see physiotherapy as being a versatile profession in which to facilitate this collaboration.

8 Emergency Department Staff Perceptions

8.1 Introduction

Consistent with the 'inverted pyramid' approach to data collection, the final stakeholder investigation provides the most in-depth exploration of ED physiotherapy. Emergency doctors, emergency nurses and physiotherapists considered how the position changed their professional roles, contributed to patient care and influenced the workings of the emergency system.

Twelve staff members were interviewed individually; two members from each stakeholder group per case. A semi-structured, open-ended technique was used, with data analysis following an inductive approach. Participant interviews varied from 20 minutes to an hour in length. As a consistent frame of reference with the patient surveys and community health professional questionnaires, current emergency system challenges were discussed before leading into more complex socio-political themes such as role delineation, conflict and professional identity. As with Chapters 6 and 7, colour coding differentiates and enables clear comparison of the Austin and Townsville hospitals' data.

8.2 Setting the scene: emergency system challenges

Having a role in the day-to-day functioning of the emergency department meant staff had a thorough understanding of the main challenges in keeping the department running. Working in the emergency department for most was exciting, professionally stimulating and ever-changing, but also meant facing daily problems ranging from capacity issues, to inappropriate attendances, to inadequate community supports for patients. Research increasingly suggests that to best accommodate emergency patients' health and social needs, the staff and organisational systems of the emergency department need to be flexible to help facilitate efficient and effective care (Sinreich & Marmor, 2005). Staff in both cases were very conscious of this, and aspired to offer flexible and efficient care. They were also generally open and accommodating to innovative ideas or changing models of service delivery, such as physiotherapy in the emergency department. However, most staff believed that the reason ED physiotherapy was even considered as part of the system was because offering 'efficient and effective' care was becoming harder to achieve within current models of emergency department practice.

To provide context to staff's perceptions of ED physiotherapy, all participants initially raised the challenges faced by both emergency departments, emphasising the very real concerns multiple professional disciplines have with present emergency department operations. Topping the list of challenges faced by both cases was the combined stress caused by *access block* and *workload*, one symbiotically feeding the other. The Austin cohort, in their collective experience of rolling out the ED physiotherapy service over the previous seven years, provided the most insight into how access block and workload concerns influenced personal stress and clinical practice choices:

I guess one of the big things is bed access upstairs, so if you haven't physically got anywhere that's easy to see patients...you put them back out in the waiting room, you get them back in again when the blood tests are there, so the flow is very disjointed because of lack of, because patients here should be upstairs, that's a big issue (Austin Doctor 2).

I mean, the biggest problem is coping with the workload, I mean, there's huge workload, which there seems to be everywhere, and relentlessly increasing . . . I think if you looked at the totality of the public that have already been serviced . . . I mean there's a tonne of times where the issue is accessing that service because of workload issues, we're just too popular is the problem (Austin Doctor 1).

Expecting to tailor medical care around access block and increasing numbers of presentations was described as 'inefficient' and 'disjointed'. Nursing staff felt continually overwhelmed by the volume of patients they had to care for with limited scope for passing them to other departments:

We can be really, really busy, all the cubicles full, both resus's going, triage is full, you've got a full waiting room, you've got ambulances still rolling in...you're trying to find beds, trying to offload patients to wards, discharge people home so that you can get the next person in that needs to be in appropriately (Austin Nurse 2).

With the burden of caring for so many patients under such frantic conditions came the realisation that the current emergency department system is not easily flexible to allow staff to maintain equilibrium within it. Equilibrium in the context of *systemic homeostasis* is an important feature of systems theory, where a system regulates its functions and performance by adapting to internal and external challenges (Checkland & Scholes, 1990). Access block and too many patients to attend to were something staff had little say over, given the nature of the public service with its responsibility to attend to all:

There's fifty beds and we do full capacity the whole time...and that's, that's not including the patients that are waiting for beds, which is usually a big thing – we just can't get our patients upstairs as there's no beds upstairs (Austin Nurse 1).

Austin staff were cognisant of the technical causes of access block, namely a depletion in inpatient beds without a complementary reduction in patients requiring them (Cameron & Campbell, 2003a; Cameron et al., 2002; Fatovich et al., 2005). They appreciated that access

block is a systemic problem in Australia, not just isolated to their emergency department (Ashby, 2003; Cameron & Campbell, 2003a; Forero et al., 2004). One of the ED physiotherapists conceded that people's demand for emergency department services is outside the staff's control, no matter how much planning tries to accommodate future need:

When Austin moved into the new hospital, there was a spike in [ED] presentations. I'm not exactly sure of the percentage but it was first seen to be a novelty factor – new hospital, people want to come to the new hospital. It was sustained, it's continued to be sustained...Before we moved, a busy day in the old department was 100 to 110...we now regularly deal with 160 to 180 patients a day. On a really, really bad day we've had 190, so you have a brand new hospital that's been designed to deal with patient load for the next 30 years, we're already exceeding that. Where the demand has come from, no-one is too sure (Austin Physiotherapist 1).

However, this did not stop frustration being levelled towards the hospital's infrastructure for failing to adequately factor in their responsibility towards addressing the lack of physical bed numbers:

Because you have so many extra people coming through, in unfortunately a brand new hospital that wasn't designed to deal with those sorts of numbers, they're sicker, you need to admit them, we haven't got as many beds. From the old hospital to the new hospital there's actually a reduction in bed numbers, in physical bed numbers. . . we haven't actually got the number of in-patient beds that we had before (Austin Physiotherapist 1).

Access block and overuse of the emergency department was also a prevalent concern at the Townsville Hospital. Taking a slightly different perspective from the Austin cohort, doctors at Townsville Hospital were acutely aware of the inappropriateness of the emergency department having to provide ward-based care to patients as common practice:

The big topic in ED these days is what's called access block and the access block has many different causes but the ramifications of it is the patients end up sitting in ED longer than they should and there's been a lot of studies that prove that it worsens their morbidity or mortality because they're not getting ward care. We don't provide good ward care, turns, helping them with their meals . . . (Townsville Doctor 1).

Access block experiences peaks and troughs of prevalence, such as with patients over 40 years of age, and patients requiring admission to a ward in night time hours (Liew et al., 2003; Richardson, 2002). However, staff did not perceive any particular reprieve from the access block phenomenon, because even if patients were efficiently relocated to the wards, the initial overuse of the service would repeat the cycle. As implied in the above comment by Townsville Doctor 1, there was a changing dynamic of clinical care; having to provide levels of care otherwise inappropriate in the emergency role and coping with the personal pressure of dealing with increased risk of patient morbidity. Consequently, the system was seen as a perpetual source of frustration:

The biggest pressure is beds, hospital block and hospital constipation. The throughput is blocked by access block to beds, so that's probably the most

frustrating thing, as an emergency department we end up with lots of patients that should go to the wards or should go elsewhere, but there is no place for them to go (Townsville Doctor 2).

Access block and overuse of the emergency department paved the way for reflection by both cohorts on how *ED physiotherapy may perpetuate the problem*. Staff had previously mentioned the ‘novelty factor’ of health care, such as new facilities, causing increased patient attendances, and had reservations that ED physiotherapy would be received with the same public interest:

I mean, when they found out we had a paediatric area, more people were bringing their kids and things like that so yeah, if people know about the [physiotherapy] services that we offer, then obviously people are going to come... (Austin Nurse 1).

We get a lot of patients I suppose don't need to be here in that respect, like it's not really a real emergency as such. The service is abused because it is the public system, so I guess, yeah, there would be if there's knowledge that there is a physio here all the time, they could provide that service and they don't have to go and have any other follow-up or don't have to go to physiotherapy outside of the public system, I think yeah, well there is that element, it will get abused (Austin Nurse 2).

Staff did not see that starting up ED physiotherapy was compromising the workload or quality of care offered by other professions in the emergency department, but rather that it was a beneficial service, the consequence of which was that people wanted to use it. Suggestions as to how to overcome this potential problem involved avoiding publicity around ED physiotherapy:

Doctor: *I guess once people were aware that it was here, then, yeah, they may well abuse it I guess, yeah.*

Interviewer: *So is there any way that you can think of, to make it known that there is this service, without having that negative side?*

Doctor: *Tell the GPs, not the general public.*

Interviewer: *Okay.*

Doctor: *So maybe make it not, not advertise it publicly, but then I guess, you know, word of mouth is going to get out, the only problem is once you provide a good service then people are going to want to use it (Austin Doctor 2).*

Townsville Hospital-based physiotherapists had not considered the potential of patients overusing ED physiotherapy services (Table 15). The risk in Townsville, it was argued, stemmed from a perceived divide between people who could afford to pay for private physiotherapy treatment and those who could not. Avoiding future ED physiotherapy overuse could realistically only come from an intrinsic, ethical responsibility on behalf of those patients who could afford to seek physiotherapy elsewhere actively doing so:

Interviewer: *Do you think that there's any risk . . . of increased utilisation because they know that they can get physiotherapy down in the ED?*

Physiotherapist: *Probably. Actually I never thought of that but if I was a patient and I had an option of – yeah, that's an interesting point, because if they are going to pay to go see a private physio, I think there's a potential there. . . I mean, there are patients that are I think quite ethical in the sense that they can afford to be ethical as well financially, and they do utilise private services because they can. Unfortunately as I said there are patients who would be compromised and they are on a tight budget and they might feel that they come to emergency knowing that they can get that service. . . (Townsville Physiotherapist 1).*

While it is an idealistic notion to expect all patients to have an ethical understanding of the role of the emergency department, there was a strong perception that patients today have little comprehension of such an acute facility's true purpose. This caused significant stress for one Townsville nurse, when asked to reflect on key frustrations in the emergency department system:

Probably non-acute things, like people who come in with like, little cuts that just need a few sutures and people, yeah, ... workmen, yeah, just come on in because, I guess they don't even think anymore to go to a GP and get it sutured up, whereas our parents probably, it was their way, that you go to a GP, you'd never go to an emergency department unless it was an emergency, whereas now I think people just view it as another free, bulk billing clinic at times (Townsville Nurse 2).

Table 15: Managing emergency department physiotherapy referrals

| |
|---|
| <p><i>I don't know that it would blow out... (Townsville Physiotherapist 1).</i></p> <p><i>I don't think it would cause an increase in presentations unless people in the community perceived that this was a cheap and easy way to access physiotherapy (Townsville Doctor 1).</i></p> <p><i>...it's really a matter of just going okay, this is what we can provide for this short term, we're only seeing you for a short term (Austin Physiotherapist 2).</i></p> <p><i>I don't think so ... there may be but it's not going to make a huge, there won't be a great percentage of people doing that (Townsville Physiotherapist 2).</i></p> |
|---|

Staff in both cohorts clearly agreed on one key issue: systemic problems affecting the emergency departments were not isolated to the hospital alone, but were a by-product of struggling community health sectors. It has been suggested that emergency departments are increasingly a 'safety net' social, welfare and medical service to be used by the community at their discretion (Malone, 1998). The perception of an emergency department acting as both a first port-of-call and last resort put staff in both cases in a difficult position. They

recognised that the emergency department and the community sector were intertwined within the health system structure, and each was affected when the other could not adequately fulfil its duties.

Unfortunately the community services in this region are very under-resourced and under-developed – extremely – especially around the health sector, so it makes it, as we find working in outpatients when we have to refer them out but they [staff] have to have a good knowledge of what those resources are, refer them and communicate with them very clearly on what all the issues are, so that the person gets the follow-up care. I mean the emphasis is to move away from the hospital system and try and utilise the community more (Townsville Physiotherapist 1).

Interviewer: *How well could your role function without that community connection?*

Physiotherapist: *Pretty poorly I suppose. It's definitely needed. You only see these people for such a short amount of time and you can't manage them yourself you know for the longer term, so you need to have really good links (Austin Physiotherapist 2).*

In Townsville more-so than at the Austin Hospital there was a recognised need for the emergency department to sometimes take over patient management, even those with non-urgent conditions, as a way of providing a quality of care that may otherwise be difficult to obtain from community health providers. For example:

We have a role in letting patients access services that a GP might find a little bit more difficult, so the burns patients getting access to the clinics to get dressings done – a lot of that can actually be quite hard to access in the community. The GPs may not know how to do it or it's difficult for them to access those services so we are sometimes the first port of call (Townsville Doctor 1).

The responsibility to supplement care for the community on an occasional basis was not the issue attracting ire from both cases. Instead it was the feeling that the community sector (including professionals within it) was letting the emergency department down either by inappropriately referring on patients, or not providing enough support to accommodate people needing medical care in the community. Much of the frustration was particularly levelled towards GPs, a sentiment prevalent in both Townsville (regional) and Melbourne (metropolitan district):

Initially I felt that they were like, 'It must be an acute problem because they came from the emergency department', and we're like, 'No, they have actually had this problem for a long time. They didn't know how to access your services' or the GP didn't direct them in the right direction, so they've come here, really as desperate, to be able to find a solution, and so it is appalling – they should have been dealt in the community already. . . (Austin Physiotherapist 1).

You can't turn people away and, anyway, we get people that do the right thing, go to the doctors and then the doctors refer them on, like the GPs just refer them on here, so there's a breakdown with the GPs as well, like they're not

doing their side of the care issues and things as well, so I don't know what I can do to change things (Austin Nurse 1).

...There are times, and again, I don't want it to sound like I'm criticising GP services, but patients can often wonder why – they go to a GP and pay a GP fee just to come and see a physio...and even then sometimes the GP may not refer them for the problem... (Townsville Physiotherapist 1).

Some staff were disconcerted by the perception that some GPs were not “doing their side of the care issues”, however others saw the main factor as poor affordability of medical care, a lack of bulk billing for those on lower incomes and a physical lack of GPs to attend to the population's needs:

[There is] a lack of GP resources in the community, particularly after hours access. If people can't access their GP, they can't access them in a timely way, they come here. The lack of bulk billing; they can't afford to see their GP, they come here. The access to community support services, the fact that we are sending sicker people home and have a higher expectation of what the community can provide, the expectation and the actual ability of services to meet that, there's probably a gap (Austin Physiotherapist 1).

In an ideal world, [we would see] emergency cases and people who are, like, people who are sick during the night that need to be seen by someone there and then that can't wait to see a GP in the morning, but, you know, it's never going to happen with the GP shortage and that . . . the reality would be that people either can't afford to go to a GP or they have to wait 3 weeks to see a GP, so they know that if they come to the emergency department, they're going to get everything done, they're going to get their blood tests, they're going to get their x-rays, they're going to get everything done for free, all in the one place (Townsville Nurse 2).

One Townsville physiotherapist went as far as suggesting that in Australia there is a *culture* of heavily relying on emergency department services when other community access is limited, an apparent contrast to regions such as the UK:

There's an element which surprised me when I came to Australia that patients can't access their GPs, then they will often use the emergency department as a way of getting medical care. . . I think for some people it's part of that free service, where if they can't get into bulk billing clinics, because there are obviously many people with very limited incomes and they can't get in to a GP that bulk bills, then they'll go to emergency so they get some kind of service, and that seems to be a bit of a culture – that's my perception of the culture there (Townsville Physiotherapist 1).

The sub-theme of an Australian *culture* surrounding emergency department use was perpetuated by a tension between *private and public health sectors*. One emergency doctor put forward the argument that both sectors were equally necessary to ensure quality control for patients' health care. This was based on the premise that “there's always an element of competition between private and public . . . sort of a tonicity between the two which is, to some extent competitive, and I don't actually see any particular harm in that” (AD1). Australia's health system married a private system with a so-called ‘socialist’ foundation,

the result of which, this doctor argued, led to greater accountability from both sectors to ensure quality patient care:

If you look around the world, some places who have all private systems, you know, offer a really good service to the very rich, but not a good system to the poor, and those that have totally socialist systems are often hard up and sort of, I mean, one would be America and another would be Britain obviously . . . an element of competition between the different services is actually a healthy thing . . . it tends to spur one, and they do slightly different things, I mean, the private system tends to do the elective work pretty well and the public systems do the emergency work rather better (Austin Doctor 1).

Taking such a pragmatic view about how the Australian health system operates was an otherwise uncommon response from either cohort. The ‘tonicity’ between the private and public sector was difficult to reflect upon when the foremost concern was that emergency services could not provide the range of interventions patients needed, yet staff felt morally obliged to provide a duty of care to all, whether they could afford to be in the private system or not. It reinforced the concern that the cost and availability of GP services was a major hindrance to the care options accessible to people in the community, grounded in a research finding by Guttman et al. (2001) that people struggle to conceptualise the true urgency of a medical condition, especially if they have no alternative medical services to the emergency department:

If I think someone should have seen their GP, I often don't say it now, because I think they've got a reason for being here, if it's just that they are worried about something, which I can see isn't a reason to be worried, they don't know that, they don't have the medical background. In the ideal world GP services would be wonderful and freely available and you know, the patient will be able to phone up and get an appointment the next day (Austin Doctor 2).

Non-traditional emergency department services, such as physiotherapy, were still rated as an important feature of many emergency patients’ management, so it was still in many staff members’ interests to advise patients to seek such care, even if the emergency department itself could not provide it, as is the case in Townsville. To ensure that care was received in a timely fashion, in line with injury progression, it was often at the patient’s expense, meaning that those who could afford private physiotherapy sought it out, whereas other patients needed to wait for available appointments in the public system:

I end up frequently telling my patients to pay the money and go and see a physiotherapist privately, even if just to get a program of self-help (Townsville Doctor 2).

Interviewer: *How long does it take to get seen [in public outpatient physiotherapy]?*

Physiotherapist: *A week to two weeks if it's an urgent referral...*

Interviewer: *Do you find that people, the patients are positive about that?*

Physiotherapist: *I would say 80% will be happy to come back to the physio outpatients, especially if it's been a repeated injury and they*

rest it previously and they got better but then they're injured again.

Interviewer: *And the other 20%...?*

Physiotherapist: *They say 'Let's not worry about it' or they're happy to see a private physio (Townsville Physiotherapist 2).*

8.3 Clinical competencies and skills of ED physiotherapists

Staff at both hospitals spent considerable time reflecting on what proved to be *the core* of ED physiotherapy practice; the clinical competencies and skills that could be used in the emergency department setting. Data analysis revealed five core competencies expected from ED physiotherapists, consistent across both cases. Additionally, several secondary clinical roles were described that related to individual features of each case, indicating case-specific needs and roles that were more difficult to generalise.

8.3.1 Musculoskeletal intervention

The most recognisable core competency that ED physiotherapists offered was the ability to *diagnose and treat musculoskeletal disorders*. Not only did it make up a significant part of the workload from the perspective of physiotherapists interviewed, it was the most readily identified quality of physiotherapy from the perspective of other health professionals. Emergency doctors in both cases saw it not only as a role that could alleviate a large clinical demand, but also as the most appropriate role for ED physiotherapists.

Emergency physio, from my point of view, involves physiotherapists interacting with the medical team for acute musculoskeletal problems . . . from the emergency department point of view, I guess we find particular musculoskeletal sports bias, I would see emergency physios having a good role in early management of musculoskeletal trauma (Townsville Doctor 2).

I suspect their role would be more to do with the primary assessment, that's assessment of particular muscular or soft tissue things, and then initiate treatment and probably refer on, like, which is sort of common role for most emergency things...I would see it having a role in the acute muscular, or musculoskeletal type things, particularly sporting related injuries. So I think that would be my image of where it would fit in best . . . (Austin Doctor 1).

Emergency department physiotherapists at the Austin Hospital conceded that a major role involved the acute and sub-acute management of musculoskeletal conditions, consistent with previous descriptions of national and international services in research conducted by Anaf and Sheppard (Anaf & Sheppard, 2007a, 2007c). Given that the Austin Hospital was the only case with dedicated ED physiotherapists, their insights provided the most accurate reflection of the extent of the musculoskeletal role:

I'd say the things that I do and see are patients with soft tissue injuries, peripheral joints being quite common, ankles, knees, shoulders, wrists, elbows

– a lot of spinal conditions, necks, a lot of low back pain so with those types of patients, it's assisting with their acute management and that involves liaising with the medical staff a lot, but also trying to start some very early treatment (Austin Physiotherapist 1).

The key to integrating effective physiotherapy management of musculoskeletal conditions involved having a high level of clinical skill and knowledge. Staff perceived physiotherapy as able to dedicate clinical time to such cases, and having an active professional interest in musculoskeletal medicine, which in turn fostered *trust* in, and *respect* for, the physiotherapist's knowledge base:

I think physios are just better equipped and [have] a better understanding of it than the doctors do because, I think the doctors more or less look at an x-ray and go, 'No not broken, yeah, muscular, see you later', like I don't think they have the same passion for what you [sic] care about . . . I think physios are definitely better than the doctors at the whole muscular aspect side of things, and the doctors will often just say 'No, that's a physio [role]'; so unless they have a general interest themselves, then I don't think they go out of their way to make muscular aspects a high priority on their list (Townsville Nurse 2).

Nurses especially considered how the role of musculoskeletal physiotherapy could assist emergency department efficiency in particular areas such as Fast Track, which had become notorious at the Austin for acting as a 'dumping ground' for musculoskeletal conditions, given their lower priority status:

...Fast Track started as well so that we can get a lot of these patients that weren't urgent, but obviously they need to be seen . . . so that we could try and reduce the number of people sitting in our waiting room . . . but that tends to end up as a dumping ground as well . . . (Austin Nurse 1).

For instance, all their musculoskeletal issues that we get through Fast Track and stuff like that, it's really good to have the physio there and they can organise services and get them on track and stuff in the community, which we don't necessarily have time to or we don't have those contacts (Austin Nurse 1).

Nursing staff were willing to express their relief at having physiotherapy available to deal with the lower priority patients, seen to free up nursing in both cases. Nurses felt they had a burdensome workload and needed all the support they could get. However, in discussions with one of Austin's ED physiotherapists, it was felt that both the nursing and medical professions still needed convincing about what physiotherapy could offer in a primary contact musculoskeletal role. As described: "in a primary contact role, [it involves] mainly the peripheral joints, mainly ankles and knees I suppose and in the sort of secondary contact role, or in consultation with the doctors, then it's all of them [musculoskeletal conditions]" (AP2).

The positive sentiments about ED physiotherapy expressed above by nurses and doctors were not necessarily interpreted that way by physiotherapists in the same team. Role

promotion, first cited by Anaf (2005) and Anaf and Sheppard (2007a), was still seen as an important step in proving to the doctors and nurses that being open to primary contact musculoskeletal physiotherapy would have positive clinical and service benefits. The Austin-based physiotherapists were always reinforcing the scope of what they could offer and were keen to have this communicated to the patients in particular:

...We are highly skilled in musculoskeletal soft tissue injuries . . . we can sort of assess and diagnose and treat and manage better. The doctors definitely have that sort of knowledge. I think they are definitely coming around a lot quicker than the nursing staff have . . . I would tell them that we have expert assessment skills, so that we can really use our manual skills to diagnose and use our knowledge of anatomy and physiology to actually diagnose, especially for musculoskeletal conditions and that because we are seeing them a lot of the time, they may be more up to date skills than medical staff who are seeing other things as well and have to keep all their knowledge up in a wide range of areas, whereas ours is more sort of keyed into [musculoskeletal] . . . (Austin Physiotherapist 2).

Staff at the Austin Hospital had more than seven years of negotiating the finer details of how ED physiotherapy can offer musculoskeletal intervention. Consequently the ED physiotherapists had a strong awareness that the position needed to be ‘targeted’ (or promoted) at appropriate times and settings to leave a positive impression on the rest of the emergency team. For example, one physiotherapist was acutely aware that “...you need to target it to when you know they’re going to be, there’s more musculoskeletal presentations, like on weekends and things, definitely when the workers can alleviate the time that the doctors need to spend with them and free them up for other things” (AP2). Physiotherapy considered this a contribution to improving the emergency department’s efficiency and effectiveness.

8.3.2 Generalist skill base

While Townsville and Austin emergency staff most readily associated ED physiotherapy with musculoskeletal caseloads, one of the ED physiotherapy qualities most vehemently defended by the Austin physiotherapists was having a *generalist skill base*. They felt it was very important that ED physiotherapy did not have an identity limited to musculoskeletal intervention. Other staff from the Townsville and Austin Hospitals had little input on this theme, perhaps reflecting the exclusivity of its meaning to the physiotherapy profession only. As an indication of its importance to current ED physiotherapists, one Austin physiotherapist described being recognised as offering a generalist skill base as a “a topic so close to my heart” (AP1). There was acknowledgement that ED physiotherapy in Australia was being conceptualised as a primary contact musculoskeletal role:

At the moment the way that ED physio seems to be heading is the primary contact musculoskeletal type physios. Admittedly they are certainly a huge area, but there is massive scope for physios to provide a service. Whether you

call them primary contact or whether you call them extended scope is a matter for the Registration Board, but I think it goes beyond that . . . (Austin Physiotherapist 1).

Both Austin physiotherapists felt this was an inaccurate reflection of the essence of ED physiotherapy; musculoskeletal knowledge was only one facet of care offered by physiotherapists, and not the defining role:

It's something that [Austin Physiotherapist 2] and I have been quite passionate about from the beginning, that it's not just a musculoskeletal workload, that you will get those combined patients, that yes, you need an excellent understanding of your musculoskeletal conditions, but you need to know about your neuro conditions, you need to know about the effects that having a geriatric patient will have on their discharge and handling their treatment . . . that's something you have to bring into play with nearly every patient that you see . . . it's very difficult to keep a really good picture of that if you focus only on the musculo side of things (Austin Physiotherapist 1).

One of the concerns of limiting ED physiotherapy's identity to a musculoskeletal role was that staff would under-appreciate the added dimensions a broad knowledge base can offer to patient management. Generalist skills can arguably make ED physiotherapists better at problem solving, with a capacity to think broadly and logically about patient management. One of the ED physiotherapists used several patient case studies to illustrate this concept:

...you do get patients across that entire age range that present but while you may have someone who comes with a musculoskeletal type problem – a perfect example this morning. A lady came in with a sprained ankle but she also had MS [Multiple Sclerosis] . . . So by having a background in all of those areas, you can put it all together (Austin Physiotherapist 1).

Having a generalist skill base meant that ED physiotherapists could recognise when co-morbidities or patients' individual circumstances required lateral thinking and, importantly, consulting with other health professionals for advice; when, “as part of your comprehensive assessment, you identify that there are other things at play” (AP1):

Physiotherapist: *I think one case I had was, I suppose a mid 60s, early 60s female patient who had fallen and broken her wrist I think it was, but she also had I think it was diabetic related bladder problems, so she had to self-catheterise – right hand in plaster, real difficulty. My knowledge about catheters and those sorts of things is not quite non-existent, but it's pretty close to it, so there are a lot of cases like that that come up. It may not be an area of expertise but you need to know where to go to access that expertise . . . there are often really odd things like that come up. Wrist injuries and diabetics and insulin, is often another one. May not be an area that we know a lot about, but you have to know where to go.*

Interviewer: *You have to be a good researcher.*

Physiotherapist: *Yes, absolutely. And thinking laterally and often thinking very outside of the square (Austin physiotherapist 1).*

Ideally, hospitals encompassing the geographic scope that the two cases under investigation do would have the services of more than one ED physiotherapist, each with their own caseload and clinical specialties. However, such was the value of having a broad skill base in the emergency department that both physiotherapists suggested that a generalist physiotherapist “is probably better than having purely a musculoskeletal physio” (AP2). Reasons cited for this include the pressure to discharge patients that make up the majority of emergency cases, including the elderly and those with mobility and safety concerns, and a need to be seen as adaptable and broad-thinking to fit within the emergency culture:

I think that you need the two physios, the two types of physios working together and I think that if you have one and not the other, it gets difficult and I especially think that if you have a generalist physio, then that's fine and that's probably better than having purely a musculoskeletal physio. If you have purely musculoskeletal physios, only doing the primary contact stuff, then often the secondary, the falls, the more sort of elderly aged care issues in terms of mobility assessments and all those things tend to get left and the emergency department definitely requires them for terms of discharge, getting people out and in a way I think they deem it as more important, the doctors and the nursing staff, because that's what's going to get people in and out as well (Austin Physiotherapist 2).

Returning to the issue of service delivery problems, such as how to reduce emergency patient numbers, proved a natural step when discussing generalist skill bases. Being able to manage a wider variety of patients, from diagnosis to discharge, gave the physiotherapists greater leverage to demonstrate that the service can benefit from the efficiency and effectiveness of the physiotherapy knowledge base. It also reflected a move by the physiotherapists to integrate within the emergency department and meet its demands, rather than acting as an isolated profession in an isolated environment. Theoretically, such a move would be advocated by the Townsville Emergency Department, where it was suggested that the department embraced versatility of its staff and their ability to manipulate care to suit the needs of the specific demographic and environment:

I think if you were going to be a physiotherapist in the ED, you have to be like the rest of the staff in the ED, and that's multi-skilled across a number of disciplines . . . that you have broad skills across, and the priorities would I guess be mobility assessments, musculoskeletal injury, chest physio, paediatrics not so important but I imagine it would be in other hospitals – they would be the areas of interest that you would need to prove and you also would I guess need to have, depending on the department you're working in . . . a bit of a background in adults and children, that's probably what I would like to see (Townsville Doctor 1).

8.3.3 Management of elderly clientele

A continuing trend perceived by both cohorts was rising numbers of elderly patients using the department. Concerns in the literature about ageing patients' overuse of emergency facilities cover several discrete domains. For example, emergency department length of stay

can increase with ageing patients, fuelling the cycle of the access block phenomenon (Liew et al., 2003). Additionally, the risk of co-morbidity and poor health outcomes from time spent in hospital is a major concern for elderly patients who are admitted in an already frail and vulnerable state (Conforti, Basic, & Rowland, 2004). This is complicated by a myriad of social factors that cause admission of ageing patients to emergency departments, including reduction in community nursing home places that can provide adequate care for patients (Cameron & Campbell, 2003a; Corbett et al., 2005). Given the prevalence of research exploring the connection between ageing clientele and the emergency departments in Australia, it was not surprising that staff saw the elderly as a pervasive and complicated population in the emergency sector, and they expected ED physiotherapy to manage a significant proportion of these patients:

I think a lot of times families have looked at all avenues for care of their relative or whatever, you know, who it may be, and last resort is, you know, they haven't got help anywhere, so they do present to ED (Townsville Nurse 1).

Townsville staff felt the region had a substantial elderly population who relied on emergency services due to inadequate community facilities, such as nursing home care. As one of the physiotherapists explained, “we have 50 people waiting for a nursing home in the hospital itself”:

Nurse: I haven't worked in any other emergency departments but I think our bed block is such a huge problem, and having such an elderly population, because even when I worked up on the medical wards we'd have, you know, 32 beds and 20 of those patients were people just taking up an acute bed because they needed nursing home placement.

Interviewer: Is it the number of people needing nursing homes, or is it the lack of nursing home facilities in Townsville?

Nurse: Probably the lack of nursing home facilities, because that would definitely ease the burden a lot, if we could put these people in places where they'd get cared for and not neglected, whereas here, they try to push people home when they're not ready to go home because there's nowhere else to put them . . . (Townsville Nurse 2).

Having a generalist skill base meant that assuming a role with elderly patients was a natural progression for ED physiotherapists. Physiotherapy was perceived to be a profession with a well-formed understanding of the functional needs of the elderly patients. The Townsville cohort particularly saw a role for ED physiotherapy in the post-fall management of patients:

. . . you've got quite a large elderly population who maybe have had a fall at home and that need to be assessed to see if they have something that is threatening and if it's not, then often they'll get management with an assessment of their mobility with the emphasis to get them back home again, not to admit them to hospital (Townsville Physiotherapist 1).

And for the older generation with, you know, they've had a fall at home and you know, we don't know if they're quite well enough to go home, so we get them

[physiotherapy] down to assess their mobility and whatnot, they do play a great role down here (Townsville Nurse 1).

The burden of ageing patients in the emergency department was a sentiment also expressed by the Austin Emergency staff, where ED physiotherapy had an active role in patients' care coordination:

I'd have to say again probably we see by far a lot of elderly population . . . normally chest pains, chest infections, elderly patients from nursing homes come here, urinary tract infections, that sort of thing. I think the bigger city hospitals wouldn't see as much of that (Austin Nurse 2).

The care coordination role assumed by Austin ED physiotherapists involved taking on extra responsibilities and being flexible to provide elderly patients with continuity of care, as well as helping the system run efficiently by reducing the number of clinicians 'doubling up' on assessments and follow-up management strategies. Part of this was from the ED physiotherapists' awareness that the care coordination role for aged care has struggled in other hospitals when it is separated from the core emergency department allied health staff:

In other hospitals across Melbourne . . . they have separate Care Coordinators and separate Allied Health teams, but still they both work in emergency . . . There is an extraordinary amount of overlap that happens between the Care Coordinators and the Allied Health staff . . . so in a sense you have a physio saying to a physio they [elderly patients] might need a mobility assessment . . . it's a waste of time (Austin Physiotherapist 1).

Therefore, aged care in the emergency department encompassed a broader skill base beyond 'clinical' interventions and assessments. While assessing quality of mobility and functional capacity remain at the heart of physiotherapy practice in aged care, the emergency role demands greater holistic understanding of elderly patients' circumstances, including their social situation and necessary community assistance:

We may have identified that someone needed home help and Meals on Wheels or showering assistance but we wouldn't previously have been involved in organising that, so rather than say getting a social worker in to purely organise the services that we've identified that they needed, it's one phone call rather than having a whole other person come in who would then do a whole other assessment (Austin Physiotherapist 1).

8.3.4 Mobility assessment

Providing mobility assessment and advice is inextricably linked with the other core competencies described by Austin and Townsville emergency staff. However, as the two cases viewed ED physiotherapy's provision of *mobility* in varying contexts, it emerged as a discrete core competency. The Townsville cohort saw mobility assessment as an exclusive role of ED physiotherapy. They were seen to have the clinical experience, knowledge and professional interest in promoting emergency department patients' mobility and safety:

I think having physio down here takes a lot of pressure off the nurses, and the fact that they can actually help get patients mobilising, help with the crutches and all that sort of stuff whereas, you know, we would have to do that . . . they're more able to assess patient mobility than we are as nurses because they have been trained in it a lot better than us (Townsville Nurse 1).

. . . at the moment we send people who need crutches up to the physio department, but if it could be even more of a one stop shop where you could go through the crutches with them and give them the right size and spend that bit of extra time with them, whereas, you know, we [nurses] just chuck the crutches at them and pretty much say "off you go on your merry way", because it's just so busy . . . I think the physios are probably better equipped to educate people on how to get out of bed better than a nurse is, because a nurse is pretty much pulling the patient out of bed and dragging them to the toilet, whereas you guys are more focussed on how they move and their safety (Townsville Nurse 2).

The need to provide mobility practice, gait aids and evaluate functional safety remains a core discharge criteria for the emergency department, with almost all patients having to demonstrate safe and adequately independent gait as a condition for returning to the community. Given the emergency department's key priority to discharge patients, the opportunity for physiotherapists to be dedicated to providing mobility assessment to patients was seen not only as being in the patients' best interests (given physiotherapy's expertise in mobility assessments), but also of great benefit to the running of the department itself, helping to relieve workload issues:

I think that would be that simple. To check the people say on crutches. There would be an amazing need and I think it will be, if you build it, they will come, the needs will just expand; the opportunities would expand (Townsville Doctor 1).

They do have a role in, just mobility sort of things, for elderly patients, for them to mobilise . . . so that's probably a joint thing with aged care, the two are probably interchangeable with that (Austin Doctor 2).

In some instances, the clinical opinion of a physiotherapist can be the deciding factor in determining whether a patient is suitable for discharge. When asked if ED physiotherapy could potentially influence service delivery burdens, a Townsville nurse strongly reinforced the issue of mobility and discharge:

Oh definitely, especially if we're not quite sure, like this is just an example, if we're not quite sure if a patient can go home, you know, we get physio in [currently] to assess their mobility and what they're like and you know, that can mean an admission or going home, so yeah, they do influence definitely (Townsville Nurse 1).

For Townsville Physiotherapist 2, whose ward-based role involved occasional involvement with the emergency department, offering emergency patients the chance to demonstrate and refine their mobility prior to discharge was part of a duty of care to ensure patient safety: "I think determining the safety of the patient [is important], in terms of mobility; prevent

recurrence of admissions and [check] mobility, falls prevention". When it was suggested that patients had interpreted ED physiotherapy as potentially a very 'encouraging' service, this physiotherapist reinforced the connection to enhancing independence through mobility assessment and education:

... I suppose we are encouraging because we are showing them basically that kind of thing, that they think they couldn't do, so I never actually thought about it this way, but if you think they can not get out of bed and show them a way they can, I suppose it is encouragement (Townsville Physiotherapist 2).

In a slight contrast to the Townsville Hospital, mobility assessments provided by the Austin ED were integrated as a feature of the care coordination process. The physiotherapists at the Austin Hospital advocated having at least two ED physiotherapists dedicated to the department; one to provide musculoskeletal management and one to provide the generalist skill base described previously. While a feature of both roles, assessing mobility, came predominantly under the generalist physiotherapy role (which has the larger care coordination role); a response to helping discharge patients faster as well as managing the large aged care patient numbers:

If you have purely musculoskeletal physios only doing the primary contact stuff, then often the secondary, the falls, the more sort of elderly aged care issues in terms of mobility assessment and all those things, tend to get left and the emergency department definitely requires them for terms of discharge ... I think any effects that that has on the a hospital definitely, the generalist one [physiotherapist] is more important, and when you have a purely musculoskeletal one, it definitely causes friction because they will be asked to do a mobility assessment on a 90 year old patient who's dizzy and then they'll go, 'No, I don't do that' and then it gets difficult ... (Austin Physiotherapist 2).

While both cases agree that mobility assessments are a core clinical competency and must be practiced by ED physiotherapists, the Austin physiotherapists raise an interesting point surrounding the definition of the emergency role practiced by the physiotherapist. For example, those who consider the role to be dominated by a primary contact musculoskeletal model may resist engaging in features like mobility assessment unless it is defined as a core competency of practice.

Care coordination at the Austin Hospital is not exclusive to physiotherapists, with occupational therapists, aged care nurses and social workers equally involved. In some circumstances mobility assessments will be undertaken by other allied health professionals as part of their clinical parameters (Anaf & Sheppard, 2007a). The care coordination role has partially driven the model of ED physiotherapy practiced in the Austin Hospital. It is a role that demands a strong understanding of the value of mobility assessments to the patients and departmental efficiency (Anaf & Sheppard, 2007a). Thus, according to the Austin physiotherapists, mobility assessments must be practiced by ED physiotherapy as a core

clinical competency. However, it may not necessarily be a role instinctively assumed by a physiotherapist unless the positions of primary and secondary contact physiotherapy are clearly communicated and defined within the emergency department system. The Townsville cohort understands that physiotherapists are knowledgeable and appropriate to conduct mobility assessments, implying that this will be a well-received feature of ED physiotherapy practice.

8.3.5 Respiratory management

The final core competency of ED physiotherapy was providing *respiratory management* for patients. The term ‘respiratory’ was used as a blanket reference for conditions that could be musculoskeletal as well as pathological in origin. There was a particularly strong awareness of this role in physiotherapy from staff at the Townsville Hospital, some of whom were cognisant that even small changes to the otherwise tropical weather made the community particularly susceptible to developing respiratory complications:

I guess it's probably worse in Sydney and places in winter and stuff, but I think, when it's cold like this [currently], like you're just going to see pneumonias and that coming in because people aren't used to it, and because it's raining they're not going to cope and definitely you'll just see all our pneumonias rock on in . . . (Townsville Nurse 2).

In Melbourne, where the weather is significantly colder than Townsville, having ED physiotherapists provide early intervention for respiratory conditions was seen as an effective and necessary way to administer treatment, even if patients in the department were waiting for admission to the hospital:

Especially like your chest infections and your pneumonias and things like that [receive emergency department physiotherapy]. They just started a chest physio down here if we've had to wait for a bed for a long time. Quite often we get the physio down here doing chest physio, so that they can implement a plan for when they go upstairs (Austin Nurse 1).

Best practice for respiratory conditions involved early intervention and assessment, and having physiotherapy available to provide intervention for lung pathologies and musculoskeletal conditions was highly desirable among the medical fraternity:

Anyone who has a fractured rib, especially if they're a smoker or they're over the age of 50, I try and get the physio to come down and give them teaching and training in incentive spirometry and some breathing exercises that will decrease the re-presentation rate with another respiratory infection a couple of days down the track (Townsville Doctor 1).

Early physio of the moderately severe pneumonias, it would be nice to get them early physio. It's hard, you certainly won't be able to get them [physiotherapy] out of hours and if you can grab the physio in hours in the ED, because it might be another 12, 18 hours before they get up in the ward and they won't get physio then for another 12, 18 hours – I think it would be great to have the opportunity to give them some physio early (Townsville Doctor 1).

For both cases, physiotherapy's clinical knowledge of, and experience in, managing respiratory conditions was useful as a feature of emergency care. Respiratory cases encouraged multidisciplinary management of patients because of the potential medical complications of many lung pathologies. Exposing medical staff to physiotherapists working with respiratory conditions was also seen to perpetuate a stronger image of physiotherapy outside of the purely musculoskeletal realm:

There are probably some respiratory cases which could be appropriate. Again, you'd have to screen those to see whether it's someone who is known for their medical problems, pulmonary problems or whatever . . . (Townsville Physiotherapist 1).

It was important to promote and communicate to patients less-obvious physiotherapy roles, such as respiratory management, in an effort to shift the perception that ED physiotherapy was limited to musculoskeletal cases. This reiterates the theme of the perceived value of having a generalist skill base as a physiotherapist in an emergency capacity:

Well part of it would be by being there, doing it, because obviously the physio would be involved with a variety of patients. You can have some patients' neurological adult or paediatric neurological issues or respiratory issues whereas if the physio was involved, I guess in time that would improve the knowledge and perception of it I guess. I mean it's all about education and experience, isn't it? (Townsville Physiotherapist 1).

Staff in both cases did not consider respiratory conditions to be a major component of the physiotherapists' workload, but given the potential acuteness of respiratory cases, it was a skill base appropriate to the environment, and one that would expose physiotherapy to a broader spectrum of patients to further address the concerns of workload and initiate early intervention as a process of best clinical practice. Thus it was appropriate to consider respiratory management, in a regional and metropolitan context, as a core clinical competency of ED physiotherapy.

8.3.6 Secondary clinical roles

Other clinical roles were raised that proved more difficult to generalise because they were either an afterthought or side mention, or were specific to the metropolitan or regional environment of the individual cases. Yet they proved valuable insights into uncommon health issues that physiotherapy can be involved with in an emergency clinical setting. One such unexpected clinical role described by the Austin cohort physiotherapists was ED physiotherapy's responsibility to provide *vestibular assessments and treatment* to emergency patients. Vestibular assessments developed into part of their clinical objectives following the ED physiotherapists' observations and clinical reasoning that some patients presenting with dizziness were experiencing Benign Paroxysmal Positional Vertigo (BPPV). This

necessitated explaining potential physiotherapy treatments to the emergency doctors to offer patients an alternate treatment option, followed up with outpatient consultation, thus enhancing the continuity of care provided:

I don't have a particularly strong background in vestibular treatment but [Austin Physiotherapist 2] does, so she did some training when she got here and then there were a few patients who we thought looked like they were pretty typical BPPV, tried them, all Hall Pike positive followed with an Epleys and it was really effective. So that's opened up one area that perhaps we wouldn't have thought about in the early days (Austin Physiotherapist 1).

Diagnosing and treating BPPV is an advanced physiotherapy skill that requires dedicated training and practice to accomplish accurately. Austin Physiotherapist 2 had prior experience that allowed the treatment's introduction to, and toleration within, the emergency department. Her experience forged an even more trusting relationship between the emergency medical staff and ED physiotherapists, as the latter could offer an alternative intervention strategy:

. . . I do a lot of the vestibular assessments in terms of the Hall Pike and treatment . . . so I'll do that in the emergency department and I have the scope to review them in Out Patients as well, so yeah, I've been doing that for a couple of years in a previous role as well, so that definitely is useful down here, because the doctors really key into that and as soon as, you know they know you can do it, they'll definitely ask you all the time, so that's good. Yeah, and so while we're good at assessing you [patients] generally, they won't necessarily know the treatment, so they'll definitely get us to do the assessment so that we can follow on with the treatment (Austin Physiotherapist 2).

Providing vestibular treatment proved to be a clinically useful skill because of the immediate impact on the patients' well-being. Vestibular treatment is therefore synchronous with the emergency department's global aims; to treat patients properly and, ideally, help them return home quickly. Thus, the medical staff welcomed any strategy that could consistently demonstrate this, and, as one of the physiotherapists noted, “. . . it's amazing the effect that can have. Because they get better so much quicker, it has a big impact on the medical staff and they remember that (AP1).”

An underlying feature of many of the patients attending emergency departments was the chronicity of their conditions. Often an acute exacerbation of a chronic condition necessitated attending an emergency department. Holistic patient management compelled staff to address causes of *chronic conditions*, and given that they were often of musculoskeletal origin, staff felt physiotherapy was ideal:

There's also certainly a role in the many chronic back pains that we get, and they often have lots of muscle spasm amongst their sort of pathophysiologies, so there's certainly plenty of benefit that can be derived in trying to treat that better (Austin Doctor 1).

The main reason for the admission of the presentations would be acute injury but they very often are based on a chronic condition, so it's probably not the majority, it's probably about half/half (Townsville Physiotherapist 2).

The emergency system in both cases was recognised as being inappropriate and genuinely incapable of providing ongoing care for patients. Service delivery problems such as overuse of the department were perpetuated by repeat admissions, for example “failed total hips” or “representations [of] respiratory infections”, and a perceived lack of community support to manage patients outside the department. Some staff considered physiotherapy to be a positive contributor towards helping emergency patients with underlying chronic conditions, and, through supportive management of patients, including beyond discharge, a benefit to the department by helping reduce re-admissions:

. . . also with a lot of our MVA's and that, in the lower back pains, like, input of physio would be huge for them, and the chronic pain, you know, chronic back pain people who just want that little bit of extra support, I think that from a physio would do them the world of good, whereas, they kind of get told that they're, that they need to toughen up by the doctors and get sent home with a script, so I think physio would definitely be good in that, really (Townsville Nurse 2).

One of the benefits of the ED physiotherapy model employed by the Austin Hospital was having a review clinic for patients who had seen either an ED physiotherapist or doctor, and who required one or two further assessments in the acute stage of injury over the forthcoming days (Anaf, 2005). Emergency department physiotherapy at the Austin Hospital had the capacity to continue the care of certain emergency patients, as well as direct them towards outpatient physiotherapy for further management. This proved meaningful for patients with underlying chronic conditions, as it is known that patients who experience chronic pain should be advised about active coping strategies, and understanding and awareness of their pain cycle, and educated in techniques for managing pain (Butler & Moseley, 2003). Physiotherapy in the emergency department was thought to have the time and knowledge to integrate these features into patients' management. This was also consistent with the patients' own perceptions that physiotherapists were primary educators and communicators about illness and injury, and could offer hands-on and home-based management strategies.

The biggest point of difference between the two cases was The Townsville Hospital's ongoing responsibility to address *tropical and indigenous health issues*. Being located in a tropical environment “certainly gives a different disease spectrum” (TD1). It proved to be a distinguishing feature from most metropolitan Australian hospitals. More pertinent, though, was the professional demand to be aware of indigenous health issues, and competent enough to communicate assessments and treatments to the indigenous population:

Interviewer: *How do you think emergency physiotherapy would need to tailor itself to address indigenous health issues? Would it need to?*

Physiotherapist: *It would need to. I think you always need to . . . there are different needs for indigenous patients, particularly having good communication skills with the patients themselves, but if patients are going back to [remote] communities, I think that information, the same with any of the other patients, they will need to have any of the plans clearly communicated (Townsville Physiotherapist 1).*

I think you have to factor in any culture in their different practices. We often utilise liaison, Aboriginal Liaison Officers, so I presume the same thing would happen in ED if a person requires some support person, that was of the same background, whether it's for, you know, the communication side of things or just other information that would need to be utilised (Townsville Physiotherapist 1).

Effective management of Indigenous patients for any health professionals working in the Townsville ED involved working in conjunction with indigenous liaison officers who were able to corroborate treatment suggestions and provide follow-up care back in the community:

. . . we have an increased number of Indigenous people in our community here so we have increased presentations with Indigenous patients compared to other health districts, I guess compared with the south of Townsville, Brisbane, Toowoomba, the Gold Coast, certainly there are a lot more Indigenous patients . . . I think up here it will be important to establish relationships with TAIHS, which is the Torres and Aboriginal Health GP service in town, that a lot of the Indigenous [patients] will go to (Townsville Doctor 1).

Emergency staff had access to professionals dedicated to Aboriginal health and communication. It was suggested that future ED physiotherapists establish a key relationship with Aboriginal Liaison Officers:

I think the person in ED needs to be aware of what kinds of services are available. It's no point in unrealistically suggesting things to an indigenous person if it isn't appropriate, suitable, and can't be followed up (Townsville Physiotherapist 1).

Interesting studies have been undertaken regarding medical communication to members of indigenous populations. For example, a study conducted by Cass et al. (2002) exposed a significant discrepancy in discourse between medical questioning and the interpretation of questions by indigenous Australians¹⁸. From the Townsville participants' responses, the nature of emergency department assessment is not necessarily compatible with indigenous perceptions of health, and prospective ED physiotherapists in the Townsville region need to be sensitive to flexible modes of questioning and treatment strategies.

¹⁸ In particular, the concept of answering 'yes/no' questions in the medical context prompted members of the indigenous community to feed back answers they felt the medical professionals would *want* to hear (Cass et al., 2002).

A key skill briefly raised by staff members at both cases was the expectation that ED physiotherapists would offer *primary contact diagnosis*. Primary contact physiotherapy has been minimally addressed in literature from the UK, where ED physiotherapists have delineated roles to diagnose musculoskeletal and orthopaedic conditions. Physiotherapists' diagnostic skills have been shown to be highly accurate in the emergency setting (Jibuike et al., 2003; McClellan et al., 2006), however some staff members were sensitive to the fact that the emergency system poses great challenges for accurate diagnosis. One example was the time pressures, given the urgency of the patients' situations and the pace of the department:

I think the ability to make a proper diagnosis, I think you have to make them accurate and probably in a shorter amount of time than anywhere else. There is often limited information from the doctors so it is probably more independent than in the wards (Townsville Physiotherapist 2).

Another key example involved one doctor reflecting on the appropriateness of physiotherapists diagnosing certain conditions, given the level of acuteness, the challenge of variables such as pain and swelling, and the knowledge base that allows a diagnosis made by the physiotherapist to be followed up with practical education and advice:

Doctor: *I think they have a very valuable role in diagnosing conditions.*

Interviewer: *Okay.*

Doctor: *I do. And also for, so diagnosing stuff, and then looking at simple, you know, ankle sprains and that, and actually giving the patient useful advice to go home and do stuff with, instead of us just saying 'your ankle's sprained, go and rest it' and whatever. Follow up, I think is great because, yeah, because before emergency physio you'd say you have a sprained ankle and go home, now they'll see them, tell them what to do, that they can go home and start, you know, hopefully improving their outcome earlier, and also follow them up . . . Knees as well, it obviously being difficult to assess acutely, I think they've got a great role in there . . . (Austin Doctor 2).*

Offering primary contact diagnoses proved to be a differentiating feature between ward-based physiotherapy and ED physiotherapy. The level of personal skill and experience had to be factored in commensurately to accommodate this demand. In the context of the two cases under investigation, the ED physiotherapists at the Austin Hospital presumably had greater diagnostic skills and experience, given that diagnosis is within their clinical parameters and job description, compared with the ward-based physiotherapist who attends to the emergency department as one portion of her caseload at the Townsville Hospital.

8.4 Encouraging evidence-based practice and streamlining the emergency department

8.4.1 Encouraging evidence-based practice

One of the most compelling concerns across the two cases was that the emergency department environment can have difficulty updating evidence-based practice given the setting's busy clinical nature. Emergency department physiotherapy has the potential to encourage *greater uptake of evidence-based practice*, especially with musculoskeletal assessment and treatment strategies. Emergency departments and hospital systems in general were a source of frustration for refining and implementing evidence-based practice, given the unpredictable nature of patients' conditions and the sense of urgency to attend to, and discharge, patients. One Austin doctor offered the following example of an unintentional resistance to evidence-based practice in the emergency department:

Doctor: *Well, I mean, there's things called the Ottawa [Ankle] Rules, which [have been] published but, you know we sort of have a mental barrier to implementing them. I mean a fear of missing fractures and all that sort of thing.*

Interviewer: *Is that, so it's a resistance to change?*

Doctor: *Yeah . . . we've all been burnt, you know, all found fractures which you didn't expect from time to time . . . they look really good, but when you test these rules in a sort of more open, general situation I think the sensitivity would not be 100% . . .*

Interviewer: *And does it have otherwise published sensitivity?*

Doctor: *Oh yeah, it says it's got 100% sensitivity, so it doesn't miss any. So that's good but, you know, that's in a sort of, a study system where everybody is keen and everybody is taught about it . . . but if you try to transpose it to the garden situation where you have lots of people rotating through, and you know, there's variability in standards and some people probably haven't even heard of the Ottawa Ankle Rules and suddenly you start trying to apply them, I suspect, if you took a broader brush you'd find the sensitivity would fall off a bit (Austin Doctor 1).*

Concerns about the capacity to update evidence-based practice in the emergency department were also felt at The Townsville Hospital. Patients' conditions often warranted physiotherapy intervention, but the overworked nature of emergency staff meant there was limited time to offer dedicated treatment to acute musculoskeletal conditions. There was also a perception that ward-based physiotherapists who did visit the emergency department lacked the specific musculoskeletal knowledge that doctors felt were best for their patients:

. . . a lot of them you really want to get to see a physio early, it doesn't happen in a hospital, it just simply doesn't happen because if I refer a patient with an acute ankle sprain to the hospital-based physiotherapist, they don't get to them soon enough. Now the evidence as you may well know in certain injuries like ankle inversion injuries for example, the evidence is to get physio from Day 1,

to start physio from Day 1 and progress it to get a better outcome, to have less joint instability down the track and have less joint stiffening etcetera . . . the physios in a hospital are too busy doing ward-based physiotherapy, which is quite different to acute physiotherapy or sports medicine-type physiotherapy, so I end up frequently telling my patients to pay the money and go and see a physiotherapist privately . . . (Townsville Doctor 2).

The principal barrier to taking up new evidence in the Townsville ED was a perceived lack of time. Some clinicians, such as Townsville Doctor 2, felt a professional compromise by not being able to provide consistent evidence-based treatment of patients, such as the provision of certain treatment techniques or exercise programs. This concern invariably returned to patients with musculoskeletal injuries that were a lower medical priority; a lesser emergency:

Interviewer: How do you balance the needs and wants of the patients with the practicalities of working in an emergency system?

Doctor: Yeah, I mean it's a really interesting question because a lot of best practice in sports medicine injuries, a lot of what we know we probably should do, a lot of what we know you should do, you just don't have the time to do. Again, if you think about VMO exercises and your acute knee injuries, you don't have the time – you just say, 'Look. You've got an MCL sprain, see you later'. That's the extent of it and I actually find it unrewarding because I think you can do so much more . . . it's difficult to balance those competing imperatives of seeing a patient, excluding emergency and movement through so the place doesn't get choked up (Townsville Doctor 2).

Emergency department physiotherapists at the Austin Hospital recognised the value of evidence-based practice. Evidence-based physiotherapy has permeated physiotherapy teachings exponentially in recent years, the main reason being that:

... evidence-based physiotherapy is important for patients because it implies that, within the limitations of current knowledge they will be offered the safest and most effective interventions. The expectation is that this will produce the best possible clinical outcomes (Herbert, Jamtvedt, Mead, & Birger-Hagen, 2005, p.6).

While the clinical outcome for patients is paramount, the capacity for ED physiotherapists to demonstrate such practice to other staff members is just as valuable to further justify the position's merit:

We found demonstrating that we are continually doing professional development, that we are continually updating our skills but we're continually following an evidence based practice has also been really significant too (Austin Physiotherapist 1).

There was no doubt that the professions of medicine, nursing and physiotherapy were considered complementary to one another, each based on the same anatomical and physiological principles of medical science. Consequently, no participant in either case was concerned that the introduction of ED physiotherapy would offer interventions that were

incompatible with the underlying clinical reasoning behind care. There was a strong sense of *trust* that techniques offered by physiotherapists were in line with medicine and nursing's ideals. Instead, many staff members saw physiotherapists' ability to follow up on evidence-based techniques in the emergency department environment as not only improving the quality of care offered to emergency patients, but also influencing the system by streamlining it – getting to patients sooner, and providing them with evidence-based interventions and appropriate follow-up:

I think it helps incorporating the care . . . so starting the care here so that they can integrate it into the ward care when they get onto the ward as well. That's very important I think . . . People get in contact [with physiotherapy] here when they first come in with their problem, so that's going to help and obviously having that contact rather than waiting a few weeks down the track, it's going to obviously improve their care (Austin Nurse 1).

I suppose the emergency physios, as I would see them working, would be more about getting the patient an initial program, giving them say, look, if you have an acute injury, you're going to get wasting of your VMO, if you don't start doing these exercises – here you go, here's a print-out, here's the exercises you need to do, come into my room, I'll show you how to do them, where you do them, here's a piece of rubber stretchy strap for you to do your ankle exercises on – whatever, but I would see probably getting the ball rolling . . . (Townsville Doctor 2).

8.4.2 Early intervention

A fundamental principle of evidence-based practice in emergency medicine is *early intervention*, with a plethora of research conducted into the value of managing patients with numerous conditions at the earliest possible opportunity, for example acute low back pain (Kempson, 1996, Wand et al., 2004) and cerebrovascular accidents (Bratina, Greenberg, Pasteur, & Grotta, 1995). Staff at both the Austin and Townsville EDs were confident that the introduction of ED physiotherapy would assist patients to receive early intervention, especially with musculoskeletal disorders. Staff recognised that early consultation by physiotherapists was clinically valuable:

It's a matter of identifying the problems initially and getting the right allied health people involved as well, and getting that patient on to the right route to recovery . . . I think it's an evolving role, not just physio but all allied health and I can see that it's becoming a lot more important to get early involvement of all the disciplines of allied health into an emergency department setting (Townsville Doctor 1).

At the Austin ED, having patients receive early intervention for musculoskeletal conditions was being compromised by non-availability of ED physiotherapy on weekends. Doctors in particular advocated the use of physiotherapy over the weekends to coincide with high incidences of sporting injuries. For some, being involved in emergency care over the weekends was a sign that physiotherapy was truly integrated into the emergency environment:

The other issue of course is Saturday afternoons and Sunday afternoons when there's a huge workload and there's always a conflict there between people wanting weekends off and where the workload is around, so I mean, I think if you were serious about doing emergency physio, you'd have to have some sort of commitment to being there at peak load time which is, you know, sporting time (Austin Doctor 1).

For others, weekend cover was a pragmatic and logical time for physiotherapists to offer consultation, given the prevalence of sporting injuries:

I'd like to have them daily, and also I'd like it to be a 7 day a week service, you know, like not having a physio on a Sunday afternoon when all the footy injuries are coming in, it would be really nice to have them 7 days (Austin Doctor 2).

8.4.3 Role of education in evidence-based practice

Several staff members in both cases were concerned that a primary evidence-based technique in health care, *education*, was being denied to patients because of the time and resource pressures in the emergency department. Education may be considered a treatment technique in its own right, as it promotes lifestyle changes and encourages the modification of risk factors among patients where possible (Goble & Worcester, 1999). Nurses felt particularly uncomfortable about the lack of education they provided patients, even though they knew it was of long-term benefit. Nurses recognised that one of the key roles of ED physiotherapy was to educate patients, especially surrounding musculoskeletal conditions and mobility. This is corroborated by some studies into the role of ED physiotherapists, showing that one of the strongest practices involves educating clients, especially in exercise-based therapy (Kempson, 1996; Morris & Hawes, 1996) and mobility (Anaf & Sheppard, 2007a):

We're always pushed to educate a lot more, but I think with so many patients and so little nurses it's just, gets pushed to the side, and I think the physios are probably better equipped to educate people on how to get out of bed better than a nurse is . . . (Townsville Nurse 2).

Because we're dealing with the patients who have got a heart attack or I've got someone that's chopped his finger off . . . we can't spend a lot of time educating patients on what they're expected to do whereas a physio I guess is saying that they're giving them specific information for what they've come in for and for the care and for their medications and things as well, so I guess that's why they [patients] see that as, yeah, physios do that better than we do [laughs] - Bad! (Austin Nurse 1).

In Chapter 6, patients suggested that education was a core competencies of ED physiotherapy. The physiotherapists subsequently interviewed pondered this perception by the patients. Physiotherapists recognised that many staff could not easily offer education to patients. The severity and acuteness of many injuries meant many patients only received

education because hands-on techniques were inappropriate at that point. Physiotherapists did not, however, feel that education was a 'lesser' option in the emergency department:

I think that's perhaps one of the biggest roles that we have. Because of the acuteness of most of the injuries that comes in, there's not a lot of scope for treatment and a lot of it is education. It's very acute management, education, education, education . . . I suppose we're the ones who have a little bit more time and a little bit more time with the patient, that we can explain what's happening, the process that will follow, all of those sorts of things . . . as part of that discharge planning, often we take on the role of making sure the patient understands what has happened, what's actually wrong with them, making sure that they've got all of their appropriate paperwork to go home (Austin Physiotherapist 1).

Physiotherapists in both cases agreed that the role of education as a 'treatment' technique was essential in an emergency environment. They felt a sense of responsibility, as many patients had not received physiotherapy services in the past and could not be complacent in thinking that the general public would understand obvious medical knowledge:

I'm actually surprised by how many simple things I can tell patients which will make a difference to the condition and they didn't know that previously, that I might be the first physio they've ever seen, so they wouldn't have a lot of knowledge about their condition and I believe that doctors very often don't explain what actually happened to them and I tend to do it if I see someone with back pain or with an injury, I tend to explain what actually happened to them and how it affects the pain (Townsville Physiotherapist 2).

Doctors conceded that the emergency department setting was a difficult place to instigate education, but not doing so was contrary to an evidence-based approach to patient management. For example, when told that most patients rated physiotherapists' quality of information provided and time spent with the patient very highly, one Austin doctor was able to consider this in light of recent research:

Research on different parts of medicine I think are showing that the person that talks to the patient the longest and actually appears to be concerned by the fact that they've got pain or whatever is one of the people that the patient most relates to. And you know, I think, certainly from my experience with physios, they sit down, they take a proper history, they explain to them what's wrong, and they explain to them how to improve their symptoms so, yeah, I think that's probably very true then (Austin Doctor 2).

Some doctors truthfully did not consider minor injuries as a priority to receive education, especially those with a musculoskeletal basis, and they were not automatically in the doctors' spectrum of knowledge, with emergency training focussed on larger, more severe conditions. It was suggested that as simple as a condition may be, ED physiotherapists had a much better understanding of advising on longer-term strategies:

I think what we perceive as minor injuries that are going back to the community can impact on the patients quite a lot and they will say, 'What can I do'? It's like, 'Go and do some exercises and RICE', but that's I guess the limit I think on some of a lot of our knowledge (Townsville Doctor 1).

I think more from an education point of view, [emergency department physiotherapists can] educate people about the natural history of their injury, the traps and pitfalls of muscle wasting, you know how to appropriately engage with Rehab after certain injuries and that sort of thing, so there would be a good role for education (Townsville Doctor 2).

Emergency department physiotherapists' experience with educating patients could be shared with the staff, allowing a forum to be developed to pass on musculoskeletal knowledge in an attempt to boost the practice of educating patients. Physiotherapists had a discrete knowledge base that could also be used to improve staff's general understanding of musculoskeletal management, itself encouraging an uptake of evidence-based management:

[In training] I had sports physios instructing a lot of the practical stuff we did about better techniques to stabilise you know the patellofemoral syndrome, when the patient wants to keep running and lots of different things like that so it would be wonderful to be able to go to a physio and say, 'Look you know I've got this patient, what do you reckon?' They actually learn from each other as well (Townsville Doctor 2).

8.4.4 Influence of efficient care in streamlining the ED

The argument was put forward by staff at The Townsville Hospital that the presence of ED physiotherapists would have an influence on the *efficiency* of the emergency department. An international study showed that ED physiotherapists are the most time-efficient clinicians in the department, meaning patients could be attended to sooner (McClellan et al., 2006). This not only rated highly with patients but also helped encourage flow through the department (McClellan et al., 2006). Staff in this research also anticipated this to be one way to facilitate improved care of patients, feeling that it could encourage “more timely intervention and more comprehensive and more appropriate intervention, so hopefully then as a result, a better recovery” (TP1):

[Currently] they would be paged to come down to see a patient who required assessment for mobility, they may have had a very acute episode of back pain and needed some intervention and advice on how to manage that, but that could be quite a slow process because you have been waiting out in the waiting area, by the time they have been triaged and not been considered an urgent priority, they then eventually get seen by a physician and get the investigations and then eventually when the physio can get away, they come down and see them, so it could be several hours before the patient does get an intervention as opposed to having a dedicated person attached to the service, that their role is to pick up these patients when they first enter into the ED area . . . if we had a skilled, probably PO4 I would say, physio working down in ED, they would alleviate the waiting times for certain patients and the ED area. The time that people would spend within the ED itself would be shortened (Townsville Physiotherapist 1).

Improved efficiency was seen to benefit more than the patients, as nursing staff hypothesised that such a position would help their own time management and responsibilities:

I think it'd probably make it easier in the fact that we're not ringing and waiting for the physio to come down for two hours and that the patients are seen more

promptly and you know, that you guys can assess their mobility and get things moving a lot quicker than what they would now, like, it's a very delayed process (Townsville Nurse 2).

While staff thought this would be an obvious benefit to the emergency department, the experience of Austin ED physiotherapists was such that their services ran the risk of being abused due to their efficiency. Physiotherapists were encouraged by how efficiently they could practice, but were also very aware of the risk of having patients overuse the emergency department to 'jump the queue' for physiotherapy management, and their service being criticised for higher patient attendances as a result:

Interviewer: *How large is the risk of you offering this fantastic physio service and having people start to use it because it is there?*

Physiotherapist: *I think it's a huge risk and I think sometimes you sort of step yourself, you've got to step back and go, 'Okay, we are providing too good a service'. They come here and they get every test done and they see a physio and then they get linked into treatment and it's like, you've sort of got to think, 'Okay, how easy am I making it'? Like, while I've got to provide education and treatment, I do need to also go 'Okay, there is a limit as to what I can do . . . (Austin Physiotherapist 2).*

A particular case study was cited by Austin Physiotherapist 1 that further illustrates this unforeseen issue. Citing a male patient who attended the emergency department with a suspected 'happy triad'¹⁹ knee injury, the patient was able to access a whole host of medical professionals through the emergency department; professions not as easily available in the community setting. This resulted in the patient perceiving that care through the emergency department was much more comprehensive and cost effective than that offered in the community setting:

. . . the medical staff actually commented that we've become too good at what we do, that we are a one-stop shop . . . [the patient] was seen by a doctor, he had his imaging done, he was then seen by a physiotherapist and started on an acute program. He was then referred to the orthopaedic surgeons to have his follow-up appointment for surgery, but he was also then linked in with on-going physio, so in a couple of hours in the emergency department, he was seeing all that. If he'd gone to his GP, his GP would have then referred him to an orthopaedic surgeon. He probably then would have to wait two, three, four even longer weeks to actually get to see an orthopaedic surgeon. Again, a long time to get in to see a physio, so that would have been a much slower process. That's assuming he had private health insurance too. If he or she, if they don't have private health insurance, while they're not supposed to, they can actually speed up the process of getting into orthopaedics, to having all of those sorts of services started by presenting here, than if their GP referred them through the normal Outpatient services (Austin Physiotherapist 1).

¹⁹ Damage to Anterior Cruciate Ligament, Medial Collateral Ligament and Medial Meniscus.

Without the same foundation of experience of the Austin ED physiotherapy service, the Townsville Hospital emergency staff could not envisage overuse of the service to be a major problem, as was indicated by their reflections in Table 15 (see p. 217). As a precautionary measure, one of the doctors proposed clear practice guidelines to be communicated to the patients to avoid perpetuating an inaccurate image of what the emergency department could offer. Such guidelines were seen to be the primary responsibility of the physiotherapist in the emergency department role:

If you make it clear what the terms are of the physio being in the emergency department and when people request ongoing physio, you point them in the right direction, explain to them this isn't what you do, you see acute injuries but if someone turns up with their chronic knee pain, I guess it's a judgement call as to how involved the ED physio gets involved . . . cause from an ED perspective, we can examine them and refer them to the orthopaedic clinic and we can get them back to their GP for advice . . . but I think we'd have to question whether there was a role for the ED physio to do that as a priority in ED (Townsville Doctor 1).

8.4.5 Holistic approach to care

Increasingly, the emergency department setting has had to accommodate a more holistic approach to health care. This was best described by one of the Townsville doctors (1), who suggested that the department “needs to provide care for category 3s, 4s and 5s, and because we're quite a big department we have got quite a few systems in place to do that, and providing their care has probably become a lot more holistic”. The overall trend towards becoming more holistic could be considered a key outcome from focussing on evidence-based practice and streamlining emergency care. Emergency department physiotherapy is just one strategy undertaken by the Austin Hospital, and to a much lesser extent The Townsville Hospital, but was strongly associated with encouraging a holistic approach to care from the physiotherapists in both cases. Firstly, physiotherapists felt they used a broader picture of the patient and condition to help with management:

We bring a holistic approach, so I think compared to the orthopaedics medical practice where they're obviously very knowledgeable and skilful but their sessions are extremely brief and maybe they would be focussing on less elements. We tend to take a wider perspective on things (Townsville Physiotherapist 1).

Once a good understanding of the patient's illness and social situation was achieved, the physiotherapist was more inclined to follow up on longer-term strategies, exercises and medical recommendations:

I think that in terms of the patients also, once you do see them, [they] can see the difference between, they like to see physio because they feel that they're getting the whole package, they feel that I suppose you get verbal feedback on the, okay, while the doctor often can exclude there being a fracture, they're not necessarily going that next step and talking about return to work and return to sport and what exercises do you do and manage it, so there's definitely that

role of exercise therapy and management and education, [it] often falls to the physio and I think that the doctors are actually quite happy for us to take up that part of it (Austin Physiotherapist 2).

A question posed to one of the Austin physiotherapists, on the topic of holistic practice in the emergency department was how physiotherapy could offer ‘value for money’ in an emergency setting if its focus were largely on musculoskeletal care, in contrast to other extended scopes of practice being trialled, including nursing practitioners, which traditionally have a ‘broader’ skill base (McClellan et al., 2006). The emphasis on a holistic approach to care was seen as more than sufficient justification from the perspective of the ED physiotherapist, who disagreed with McClellan et al.’s (2006) assertion:

We may be able to see a less range of people, we can see them for a greater, we can sort of deal with their diagnosis, management and treatment, whereas the nurse practitioner might have a broader scope of patients they can see, but they can only diagnose and then they can’t manage them as effectively – all of them as effectively, so it’s sort of that order (Austin Physiotherapist 2).

Physiotherapists conveyed a sense of pride about the holistic approach to care taken with patients. Clinical research exploring a correlation between physiotherapy’s ‘holistic’ management of emergency patients and the long term influence this has on the department service delivery has not been conducted. However, it has been speculated that being able to offer such a comprehensive range of diagnostic and management strategies, as cited in this section, is increasingly desired and required by emergency departments, considering the dynamic relationship between the department, the patients and the community sector:

I think this [emergency department] is evolving and I think it’s [emergency department physiotherapy] very important, especially with patients going home as well, and preventing re-presentations, getting them functional, back in their community (Townsville Doctor 1).

8.5 Balancing professional autonomy with collaboration

One of the more complex roles of an ED physiotherapist was enhancing professional autonomy while working as a team member. Physiotherapists in both cases recognised that ED physiotherapy by definition involved a higher level of clinical reasoning, clinical knowledge and, consequently, autonomous practice (Anaf & Sheppard, 2007c). But it also involved integrating physiotherapy practice within a new, established system of health professionals unlike those in traditional ward-based or rehabilitative care. Given the relative professional isolation from the physiotherapy department, a key challenge perceived by physiotherapists was to prove that the group were capable of working independently with patients within an emergency team structure:

The main difference [with emergency department physiotherapy] is that you’re assessing and diagnosing I suppose, especially in the primary contact role from the start, so you don’t always have the backing, or you’re not always working in

consultation with the doctor. At times you're working solo and the other thing is that you are given more responsibility, even just in the working environment of the emergency department, even when the doctor is seeing the patient, they do put a lot more emphasis on you sort of having your responsibility to do things without necessarily them always looking over you, whereas it is a bit different on the ward where there's more a team environment (Austin Physiotherapist 2).

Physiotherapists at The Townsville Hospital anticipated that if ED physiotherapy were set up as a dedicated position, it would involve a much greater level of autonomy than most other hospital-based roles. The main concern was that the person attached to the position would be able to demonstrate clinical proficiency and professional independence:

The physio needs a certain level of experience, working with the patients and certain training of competencies and also be assessed on those competencies because you know it is a very responsible role, and I think we need to be sure that they can function at that level (Townsville Physiotherapist 1).

Importantly, The Townsville Hospital recognised that a future position would need plans and procedures to facilitate a team-based approach to care in the emergency department whilst promoting physiotherapy's role as an advanced or extended scope of practice:

The systems could be set up that all the different professions are, with certain cases, that they would screen appropriately but certainly collaboratively, it just means that with some cases the physio could manage independently and access the other teams as needed, other members of the team, and there are other cases where clearly it needs to be a multidisciplinary approach or driven by the medical staff, but the physio would be accessible sooner (Townsville Physiotherapist 1).

Where physiotherapists at The Townsville Hospital advocated that 'systems' be in place to assist professional autonomy and collaboration, Austin ED physiotherapists recalled strategies they had put in place to best integrate within team. One of the main strategies was fostering strong medical-physiotherapy relationships. By forging open dialogue with emergency department consultants, the physiotherapists felt that it generated an atmosphere of trust and respect, particularly respect for the current systems in place:

The medical staff still retain the ultimate responsibility. We have worked really hard on building a really good relationship with our consultant group here and that's worked quite well in that it's very flexible and there's a lot of respect that goes both ways. Now I think that they have managed to see what we're capable of but they have also seen that we know our limits. If something appears to be not quite right, if something appears to be progressing, is worse than first anticipated, then we will immediately say, 'This is beyond what we can manage' and then go back and get medical involvement (Austin Physiotherapist 1).

Definitely I think establishing with a senior consultant that has a good understanding of what the physio role is and I think I've been lucky to establish that link, and have been able to push that in terms of educating and encouraging the role with the other doctors (Austin Physiotherapist 2).

While physiotherapists had found this a useful collaboration, there was a downside from having medical consultants so entwined in the process of establishing ED physiotherapy; the continual perpetration of a medical model of care. Austin physiotherapists appeared pleased that relationships with medical consultants did not limit their choice of clinical interventions for patients and they were allowed to remain relatively autonomous. However, an undercurrent of professional frustration was clear, as the physiotherapists implied that building mutual respect was still a 'work in progress':

I made up some clinical parameters which my mentor, who's a consultant, thought that he should write . . . So he took what I'd written and made it into a different document which he thought would be more accepted by his peers, so that was a very interesting process (Austin Physiotherapist 2).

A positive side to having the support of medical consultants was having medical professionals advocate ED physiotherapists' skills and tasks, such as in the above example of helping to format policies and procedures that would be more widely tolerated. Conversely, the physiotherapists were bothered that their experience and advice was not readily heeded without the help of a medical ally:

There's still that thing where you would like to be able to go and present to the consultants . . . but I think when it comes from another consultant, they are way more receptive of it. And I have noticed a huge shift, a huge change, even though you know you sort of constantly go, 'This is what I do. This is what I do'. When it comes from someone else who's their peer, they're just like 'Okay. This is what you do', and they'll come to you and go, 'Are you doing this?' This is what I have been telling you for two years. It's very interesting politics (Austin Physiotherapist 2).

While unfamiliar with how to launch an ED physiotherapy service in Townsville, the doctors and physiotherapists were able to recognise the importance of collaboration in the emergency setting. The emergency department was identified as one of the most varied clinical environments, where no one professional could have responsibility for all clinical and administrative tasks. It seemed inevitable to the doctors and physiotherapists of The Townsville Hospital that a collaborative working partnership would be an essential part of setting up an ED physiotherapy service:

It's ED and the world. I mean every partnership is important . . . it's services like the extended acute care, the Aboriginal liaison social worker, the physio and all of those relationships, the psych, the INA, all those relationships are very important. I guess there is a saying that emergency physicians are a Jack of All Trades, Master of a Few, and a lot of what we do is collaborative with other specialities and health professionals (Townsville Doctor 1).

Especially [emergency department physiotherapy theoretically] being a new role . . . if we had people go in who weren't strong in their knowledge and skills, then we wouldn't have the trust and the support of the medical team and then it's less of a service to the patients (Townsville Physiotherapist 1).

A Townsville doctor was able to relate his previous experience of managing a rural hospital with physiotherapists to what he assumed would be required for establishing an ED

physiotherapy service in Townsville. He described working as a chief physician in a remote East Timorese hospital, necessitating a close relationship to the physiotherapists staffing that hospital too. The physiotherapists' knowledge and skills complemented his rural and emergency medicine focus well, and he made the obvious parallels to a similar collaboration running in a regional emergency department:

I worked as a fairly independent doctor on the Indonesian border of East Timor for seven months . . . had about a thousand soldier patients that I was looking after and I was fortunate enough to have physiotherapists essentially attached to the small hospital, which I ran and it was an absolutely wonderful relationship, to be able to work closely with a physiotherapist, do the sports medical stuff, get the physios to do their bit, get them to bounce them back when therapy wasn't working, you know, that partnership was excellent and I really think, I really think they're a great benefit to the patient and I would see the same sort of thing happening in the emergency department if there was a physiotherapist here, so I actually think it would be a really good thing (Townsville Doctor 2).

The success of establishing ED physiotherapy, and as a result the responsibilities bestowed on the clinician in place, was reliant not only on developing a strong collaborative working environment; the right individual needed to be in the position to facilitate a smooth transition into the department. Central to the individual's qualities was a need for an excellent broad knowledge base, personal integrity, communication skills and a willingness to mix in a team setting; a reflection of desirable qualities for both cases:

[I look for] someone who is easy going, someone who is very flexible, who isn't too rigid with processes and thought structures and all those sorts of things, and someone who is confident enough to push a case, because often there are cases where medical staff disagree with you about someone's safety about going home, so if you think someone really does need to come in, then you do have to advocate and you do have to push a case (Austin Physiotherapist 1).

Nurse: I think working in ED, no matter whether you are a physio, nurse, doctor, you do have to have a certain personality to work ...

Interviewer: And what is that?

Nurse: I think you have to be, I wouldn't say tough, but, you know, you have to take the good with the bad . . .

Interviewer: Roll with the punches...

Nurse: Yeah, basically. And you'd have to be reasonably assertive, and know your own boundaries as well (Townsville Nurse 1).

Ideal qualities of ED physiotherapists described by staff from Townsville and Austin Hospitals included *advocate, confident, tough, assertive, knowledgeable* and *sympathetic*. Using these qualities in appropriate measures was also a skill, with the best person for the ED physiotherapy position able to be firm but fair, or sympathetic while still efficient. This

was especially relevant given the short amount of time emergency staff spend with their patients; a solid rapport with patients and staff needed to be established quickly:

I guess you've got to be more sympathetic down here, whereas on the ward at least you can, you generally get a bond with your patients and you know them, whereas here it's, you know, you're going to have contact for fifteen, half an hour, and then you'll probably never see them again, so I guess that's just having that extra bit of good communication skills and being able to communicate with people and being sympathetic to them so they'll listen to you and take your advice, and not just get angry and think that you don't care and not listen to a word you say (Townsville Nurse 2).

According to the Austin ED physiotherapists, establishing a rapport with staff and patients was a challenging feature of working in the emergency department. While they felt comfortable interacting with people on many different professional levels, there remained an underlying responsibility to continually advocate expanding the physiotherapy position, given that the position continually adapted to the changes in the emergency department. As one physiotherapist noted, “I will need to collaborate with the nurses and the doctors to try and advance that role into a place where it is going to benefit the department as a whole” (AP1). The central challenge meant defending clinical interventions and the physiotherapy role in the department without being seen as brazenly pushing for physiotherapy at the expense of the department’s operations and already established relationships:

I think people try and push their role and try and get more advanced and then therefore not necessarily improve systems . . . because it's not going to have the backing in there, it's not going to really improve the way that the emergency department runs if they see you as pushing yourself for your own reasons and just see you as pushing your profession and not necessarily to the benefit of [ED], and sometimes it's to the detriment of others as well, therefore you will get knocked down (Austin Physiotherapist 2).

8.5.1 Role delineation versus conflict

The risk of disrupting professional relationships within the emergency department in order to advance physiotherapy was heightened by the reality of having to continually justify the profession’s role as a non-traditional ally. Such ‘tension’ between these competing objectives perpetuates a contentious theme; the fine line between independent role delineation turning into a ‘turf war’. Doctors and nurses interviewed in both cases were wary about physiotherapists assuming advanced roles, and felt that a balance was needed to keep physiotherapy (the profession) as ‘physiotherapy’, without making other emergency professions feel redundant. Nurses at the Austin Hospital were particularly concerned that their roles would become harder to justify if multi-skilled physiotherapists could take on similar responsibilities:

Our role is getting a bit more blurred and we don't sort of have the set structure anymore, because this person can do that and that person can do that, so I think it's taking away from our role . . . From a professional aspect, it's just that

it's very difficult to sort of put yourself on a, you know you're a nurse, but what can you do? You can't sort of say, 'I can do this and do this', but then people say, 'But physios and other people do it as well' (Austin Nurse 1).

Such concern was sensed by Austin's ED physiotherapists, with nurses seen to be the least tolerant of physiotherapy having an advanced or primary contact role. Through the mentoring links established with medical consultants, physiotherapists considered emergency doctors to have a better understanding of the primary contact musculoskeletal role. In contrast, "[nursing staff] still struggle with the concept of what we do, especially in the primary contact role. They can see the other stuff better but in terms of the primary contact I think they're struggling with that a little bit more" (AP2). The topic of 'turf wars' relayed back to the previous issue of the ED physiotherapists feeling that positive sentiments about their role, professed by nurses and doctors, especially about alleviating workload burdens, were not easily felt out on the floor. One Austin nurse felt it necessary to clarify the complexity of the situation:

Some of our staff already trained obviously to prescribe medications and that sort of thing, like it could take away from us I guess in that respect, but in times where it's really busy, it could be of benefit as well to have that extra person there that can sort of do the same things or you know similar things to you, or work alongside of you (Austin Nurse 2).

Part of the Austin ED physiotherapists' inevitable clash with other professional roles emerged from them feeling that physiotherapy was ideologically and professionally the best discipline to offer certain services. Having demonstrated a core focus in musculoskeletal medicine in particular physiotherapists fought to retain control over several features of musculoskeletal care. They were prepared to use the backing of other professions, such as medicine, to justify their expertise:

. . . The acceptance of a primary contact physio say, compared to a nurse practitioner, is actually better because nurses aren't traditionally seen as being able to manage soft tissue injuries, yet the nurse practitioners, that's one of the areas they're targeting and certainly from our limited experience, from people coming into the department, they're more comfortable seeing a physio for those types of conditions but our feedback from within the hospital, particularly from the orthopaedic department, is any patient we refer on to them, they would actually take that referral and consider it more highly than they would if it had come from a junior or even registrar-level medical staff within the department. They actually will not accept a referral from a nurse practitioner, so again I think that probably justifies our thoughts but it's also really good feedback that we are doing a good job and we're doing the right thing (Austin Physiotherapist 2).

Orthopaedic specialists' confidence with physiotherapists' knowledge of musculoskeletal issues confirmed previous research findings from Jibuike et al. (2003), in which physiotherapists were able to demonstrate the greatest accuracy with MRI prescription for acute knee injuries, for example. Arguably, the physiotherapists' general support from orthopaedic and emergency medical specialists also reflects less concern about medicine

losing its identity in the emergency setting, as they retain ultimate control over the department. However, whilst comfortable with his own roles and responsibilities, one emergency doctor from the Austin Hospital felt that the changing emergency role delineation due to physiotherapy's presence ran the risk of merely shifting services 'sideways', without actually improving overall service efficiency:

It's interesting that everybody is getting into what we regard as traditional medical areas. I guess that's, you know, to some extent healthy competition between peers, but obviously there's some workforce and other issues in there which doctors might object to in some shape or form . . . I would have to, myself, would want to see, I mean, I don't see any point in just shuffling things sideways, I mean, you'd want to have some notice of benefit to the patients or something . . . In Britain [ED physiotherapy] is one of their ways of getting through the emergency workload, because they staff their emergency departments so poorly with doctors that, you know, if anybody else can do some of their work for them, they're probably more than happy to (Austin Doctor 1).

The staff at the Austin Hospital provided great insight into the complex problem of professional 'turf wars'. In contrast, staff at The Townsville Hospital were not very concerned that professional conflict would arise if they were to introduce dedicated physiotherapy to the emergency department. Only one doctor at The Townsville Hospital discussed the potential conflict between medicine and physiotherapy if advanced or extended roles for physiotherapy were introduced. This was mainly borne out of his personal frustration with the medical specialist training system being so protracted; any extended privileges given to physiotherapists were seen as a 'queue-jumping' measure:

At the moment I have three fellowships, two years of sports medicine, I have an x-ray licence to take my own x-rays, I have lots of different qualifications and I've had lots of experience in this issue. I can't order an MRI, even in this hospital . . . without a consultant specialist . . . so 12 years of higher education to be able to do that. I've had 12 years university doing training at the moment and I can't order MRI's so a physiotherapist doing 4 years and then a couple of years of some speciality training to be an ED physio, I still don't think it would be right to order an MRI, for example (Townsville Doctor 2).

An undercurrent of emergency department 'turf wars' was a perceived lack of respect for the roles and responsibilities of other health professionals. Physiotherapists were warned that if introduced to the emergency system in Townsville, they were entering an established organisation where the core practice revolves around medicine and nursing. As already raised by the Austin ED physiotherapists, sensitivity was needed about taking over patients and making sure that the profession complemented medicine and nursing rather than replacing them:

. . . There's only a sub-section of society that's trained to diagnose and that's doctors and so the physio should do physio and ring me up and make a suggestion, no dramas, but that is the only caveat is that you wouldn't want the physios being emergency doctors. As long as they do their bit and the doctors do their bit, and they work closely together . . . everyone does their bit and their

job and they work symbiotically it works really well . . . I think there's a reason why doctors are doctors and physios are physios and you know, everyone has their sub-speciality area, so I think that it only becomes problematic when people try to work too far beyond the bounds of their expertise (Townsville Doctor 2).

To help describe the fine line between 'changing' professions and advancing a professional role, Austin ED physiotherapists were asked to illustrate how they would set up an ideal service in the context of an established system, treating it as advice for facilities like The Townsville Hospital for future consideration. Importantly, they recognised that medical conditions treated in an emergency department usually required multidisciplinary intervention, and future physiotherapy services needed to help coordinate this:

You rarely get a patient that doesn't have any issues that another health professional wouldn't be required and it would be time inefficient to call them every time, so you need to sort of be able to delve into those issues but also know your boundaries as to when to call the other professional in . . . so you can tap into them and that's definitely important to understand the boundaries and not to be going beyond what we should professionally I suppose (Austin Physiotherapist 2).

To best meet the position's demands, and cover all the core competencies of ED physiotherapy raised during the interviews, the Austin physiotherapists generated a theme whereby they described a 'wish-list' of features of an ideal service (Table 16). They were clear that the Austin model of practice aspired to these features. As one of the longest running ED physiotherapy services in Victoria, they were confident their reflections and experience would translate well to other facilities.

Table 16: Key considerations when introducing ED physiotherapy to an established system

To set up an ideal service you would have a primary contact physio but you would also have two physios on a shift – someone who is acting as the primary contact person and someone who is the secondary contact person (Austin Physiotherapist 1).

They need to be able to do each other's role so the musculoskeletal physio might do that 90% of the time but they also need to be able to do the discharge planning and the non-musculoskeletal specific patients . . . so they need to sort of cross over but also have defined roles (Austin Physiotherapist 2).

You need to have that second person who is able to take over some of those more time-consuming cases, but also the cases, particularly like vestibular cases or TIAs that might be resolving, those sort of things that obviously need medical intervention but you also have a role for physio as well (Austin Physiotherapist 1).

The way I have been trying to explain it to the Department, it's like asking a nurse practitioner to also take a patient load in the cubicles; it doesn't work. It's the same for primary contact physio. I think there's a perception out there that if you are a physio, they can be a primary contact physio and do everything, but our experience here is that it just doesn't work. You just keep getting pulled away to do mobility assessments and all that other stuff (Austin Physiotherapist 1).

8.6 Preserving the professional ‘self’

The final core theme explored by emergency department staff involved reflecting on how physiotherapy can preserve its professional ‘self’. More pointedly, how can physiotherapy retain its clinical identity while adapting to the emergency setting? Physiotherapists at both the Townsville and Austin cases considered strategies and challenges associated with this problem. Surprisingly, other staff also volunteered to reflect on what they saw as the essence of physiotherapy’s identity.

8.6.1 Physiotherapy in care coordination

A challenge that emerged from the Austin ED physiotherapists’ experience was the barrier to aligning physiotherapy with emergency care coordination, given physiotherapy is a non-traditional area. Many Victorian hospitals have implemented care coordination units to help streamline the discharge of patients, particularly elderly clientele. Care coordination units proved a great inroad for introducing physiotherapy into the emergency environment, but, by definition, such units are equally appropriate for other health professions such as occupational therapy, social work or aged care nursing (Hough, 2003; Moss et al., 2002; Taylor et al., 2004). It was therefore inappropriate, even detrimental, to consider care coordination as reflecting all the roles and responsibilities of an ED physiotherapist:

Interviewer: *Why did you decide to call yourself ‘physiotherapy’ over ‘care coordination’? Why did you choose to have the overarching title as ‘physiotherapy’?*

Physiotherapist: *I think because that’s what we are and that’s what we do. Care coordination is only a part of it. There’s been schools of thought that say that care coordination is essentially just discharge planning and discharge planning has always been a part of a physio’s traditional role. Because of the nature of ED and the importance of getting people through quickly, and to make sure that there isn’t an overlap from other Allied Health . . . it’s just easier if you pick up some of those roles that have traditionally been part of the physio role . . . so rather than say getting a social worker in to purely organise the services that we’ve [already] identified that they needed, it’s one phone call rather than having a whole person come in who would then do a whole another assessment . . . so in amongst all of that, I suppose each discipline tries to preserve some sort of identity in that we are a physio, we are an OT, but the care coordination part of it is something that everybody can do to varying levels, depending on your background, but it’s a very strong sense that we need to keep our identity as a therapist, whatever the discipline might be (Austin Physiotherapist 1).*

Depending on whether a physiotherapist worked in a primary or secondary contact role directly influenced their sense of identity. For example, being recognised as the primary

contact ‘musculoskeletal’ person was synonymous with being a ‘physiotherapist’, as this was a strongly identified role by most staff, patients and even physiotherapists. Preserving a professional identity was harder when the main responsibilities involved using a generalist skill base, as happened with a ‘secondary’ contact role:

Interviewer: *How do you preserve your identity then as a physio?*

Physiotherapist: *For me, that's fairly easy because it's mainly musculoskeletal but I think with the generalist role, that is fairly difficult, and it is more difficult when you have a musculoskeletal physio in the department as well because they tend to take all the physio, very physio-specific stuff, so you get, the generalist one probably gets left with the . . .*

Interviewer: *The aged care, mobility . . . ?*

Physiotherapist: *The aged care, and therefore doesn't necessarily feel like they're actually a physio, so I think that's where that gets fairly blurred (Austin Physiotherapist 2).*

Staff at The Townsville Hospital made no reference to physiotherapy being part of a care coordination process. They did not discuss physiotherapy as part of a multidisciplinary collaborative incorporating occupational therapy and social work, for example. It was therefore not surprising that the preservation of physiotherapy’s identity in care coordination rated no discussion in this case. Further, without previous experience, The Townsville Hospital staff found it much more difficult to visualise *why* physiotherapy’s professional identity would be challenged in the emergency department. This appeared to stem partly from the fact that The Townsville Hospital respondents felt the staff and community had a reasonable image of physiotherapy, so the risk to professional ‘self’ was not an obvious problem:

I think probably most patients' experience of physio will be either from seeing or being a patient on the ward or observing a relative being treated by a physio, or it will be a community physio (Townsville Doctor 1).

Physios in Australia have a very good profile in working with sports teams, you see them on the television, so they [staff] might be less threatened by that . . . [ED physio] would certainly raise the profile of physio, because if they're [patients] coming across physios early on like that and they're getting correct intervention, it certainly would increase their satisfaction with the whole health service as well as with Physiotherapy (Townsville Physiotherapist 1).

8.6.2 Personal qualities and knowledge

Three key strategies were discussed about helping to preserve the professional ‘self’ in the emergency environment. These were overwhelmingly driven by the Austin cohort of staff, particularly the physiotherapists. The first strategy involved identifying from the outset the *personal qualities and knowledge* of the ideal clinician and translating this into ED physiotherapy recruitment. For example, exploring the main types of patient populations for

the particular region, such as the elderly or indigenous patients, and then using this to guide recruitment and professional development. One of the Austin ED physiotherapists explained how they recruited to the department to tailor to the demographic of the northern Melbourne region:

We actually went into our interview process looking for someone who had experience over a fairly wide range of different areas. We were looking for someone who was a grade 2 physio, so we were looking for someone who had had experience . . . we were looking for definite experience with musculoskeletal, preferably in inpatient and outpatient, we were looking for someone who had had at least some contact with aged care, who had an understanding of community services, and someone who had a personality who fitted in with our team (Austin Physiotherapist 1).

Choosing the most appropriate clinician for the role is a logical and self-explanatory part of recruitment in any health-based position, but the argument was that it was even more important in the ED physiotherapy role given the somewhat covert scrutiny about its place in the department. The ‘foundation’ qualities of a physiotherapist helped to facilitate professional *identity, trust, competency* and a ‘*place*’ in the system, and acted as an insurance policy for the future development of the role:

I think that, especially in this stage where we’re trying to push things forward . . . we don’t want to make a mistake, you know we don’t want something for them to pin on and go, ‘Okay, you made a huge error with this patient – that’s why you shouldn’t be in this role’, because I think at the moment they will try and scapegoat things . . . I think we need to make sure that musculoskeletal roles are well supported by a Masters . . . it may not always have to be that way but I think while we’re trying to prove ourselves in this environment in that role, in the advanced role anyway, it’s to be fairly defined . . . (Austin Physiotherapist 2).

Even senior medical staff wanted a physiotherapist who commanded respect, and this meant engaging in discussions with staff and advocating for the patients’ interests, even if contrary to medical opinion:

. . . being able to tell doctors when they’ve got it wrong, when they’ve made the wrong diagnosis [is important] . . . it’s changed some of the doctors’ ways in that you’ll let [physiotherapists] assess patients first, let them tell you the history and then you basically just go back and have a quick check (Austin Doctor 2).

Having a physiotherapist with strong clinical experience as well as the personal strength to defend clinical decisions resonated with staff at The Townsville Hospital. Autonomous practice in the emergency department would require having someone with superior skill to manage the responsibility of the position’s development:

There’s more responsibility on them to, even though we’re all supposed to be clear on how to examine patients, I think there is a bit more responsibility because they haven’t gone through medical staff so they need to be very sharp and clear with any red flags²⁰ - it all comes down to having the right person in

²⁰ An underlying sinister pathology or systemic condition (e.g. undiagnosed cancer or myocardial infarction).

the position with the right skills and team skills, I think, that would improve things (Townsville Physiotherapist 1).

One of the most important features to preserve about the physiotherapy identity is the holistic conduct of assessments, from a subjective evaluation through to treatment options. This was firmly rooted in the identity of being a ‘physiotherapist’ in the opinion of physiotherapists:

Physios provide very thorough, comprehensive assessments of patients and if we bring it to maybe a musculoskeletal example, we certainly, within our practice . . . it is structured that we have the time built in to perform a thorough subjective, objective assessment as well as the skill to carry it out (Townsville Physiotherapist 1).

8.6.3 Professional advocacy

The second key strategy for preserving the professional ‘self’ involved pursuing professional advocates. Representative bodies for Australian physiotherapists were crucial allies in exposing the benefits of ED physiotherapy to the broader health community. Part of the physiotherapists’ desire for greater professional representation came from seeing forceful advocacy bodies, such as the nursing unions and even the nursing department, providing support for advancing clinical roles for nursing practitioners. At the Austin Hospital, an image was projected to the physiotherapists that the hospital’s broader nursing departments supported emergency nurses very well. A united front enabled nurses to be very convincing in pushing for new clinical strategies, such as the nurse practitioner positions, which competed with physiotherapy’s push for advanced practitioners:

There is that consensus from the medical staff and from orthopaedics, external to the emergency department, they want us in that role rather than the nurse practitioner but then there is great support from the nursing staff for the nurse practitioner, so it’s really obviously a huge body and stick together well, so that way I feel a bit, always out to prove myself which makes it really hard (Austin Physiotherapist 2).

Rather than reflecting on the dominance of the nursing advocates in a negative light, the tone used to discuss this strategy was more contemplative, offering an understanding of why the nursing profession had banded together and perhaps hoping that the physiotherapy profession would do the same. Being removed from the traditional physiotherapy environment was seen as a potentially isolating and challenging situation for a hospital-based physiotherapist. Having the physiotherapy department, at the very least, to represent and support the advancement of ED physiotherapy was essential to staff morale and professional development:

Interviewer: How important is it for you to have professional advocacy from physiotherapy?

Physiotherapist: *It's extremely important, and when you think about it, if I was the only person down here, or the only musculoskeletal [physiotherapist], it is extremely hard because you are, even though the nurse practitioner is a different role, they are supported by the nurses who just do the normal nursing and they're very much supportive of any nurse that goes and pushes themselves forward, so it's really important that I'm seen to be backed by the wider physio department upstairs and my manager external to the emergency department as well – very important (Austin Physiotherapist 2).*

A further reason cited for needing strong professional advocacy was the importance of regular professional development to retain discipline-specific skills. Physiotherapists in both cases felt a strong sense of professional identity due to the skills that *separated* them from other professions, for example a dedication to musculoskeletal medicine, a lesser priority to the doctors and nurses yet a core physiotherapy competency. Working in an advanced role as a musculoskeletal specialist did not necessitate using other broad skills (the generalist skills), yet it remained a key feature of the position. Therefore, the support of the wider physiotherapy department helped ED physiotherapists seek advice about other interventions as necessary:

Maintaining links for the physios with our physio department . . . is really important because ED can be a very isolating place to work, that it's been all consuming, that you sort of come into the department first thing in the morning and you don't leave until the end of the day, that accessing the department from a professional development point of view, for support, for debriefing, all those sorts of things – it's very easy to lose that . . . a lot more pressure and awareness can come from the whole department pushing it [emergency department physiotherapy], so I've been very careful to make sure that within the team everybody maintains their links and certainly from a professional development point of view, while there are things we can offer to the whole team, there are still discipline-specific things that you need to be doing constantly, otherwise you will lose your broad base skills (Austin Physiotherapist 1).

Perhaps due to the fact that the service in Townsville is not a dedicated position, staff at the Townsville ED offered very little comment about the role of professional advocacy in supporting ED physiotherapy. There was no dispute that the position would be closely aligned to the physiotherapy department. It was, however, more difficult for any profession in the Townsville case to discuss potential problems, such as isolation from the physiotherapy department or how to maintain clinical skills through professional development. Advocacy was therefore not an immediate concern, although one of the physiotherapists pointed out that setting up a dedicated ED physiotherapist would require broader-reaching support from the professional bodies:

If there is enough demand for it, then I think if for example the APA fights for it, I think it's possible (Townsville Physiotherapist 2).

8.6.4 Physical environment

The last key strategy to preserve the professional ‘self’ involved modifying the physical environment to meet the needs of ED physiotherapists. This strategy was principally proposed by the Townsville cohort. Some staff recognised physiotherapists as having specialised equipment and plinths, and it was logical to assume that the emergency environment would need to address this. One of the physiotherapists felt that a proper physiotherapy set-up could make the effectiveness of her clinical interventions better:

Physiotherapist: *I think sometimes I'd like to be able to treat patients a bit more thoroughly in terms of I'm not being able to apply traction for acute pain and I think there is a time limitation . . . We do not have a proper physio bed in ED. Very often beds are very high so even assessing will not be very accurate so there could be things in terms of equipment, availability . . .*

Interviewer: *Do you think it would be worthwhile having a dedicated physio area down there, like a room?*

Physiotherapist: *It would probably be beneficial. It would make, it would make our assessment more accurate, but [also] probably our treatment a bit more beneficial (Townsville Physiotherapist 2).*

Developing a separate physiotherapy treatment area was also raised by one of the Townsville doctors who believed it would help streamline the workload in the emergency department. He argued that part of the difficulty was providing quality time with patients in a department that was notoriously time-poor. A specific physiotherapy area that was ‘quarantined’ could help physiotherapists effectively and efficiently complete their assessments with the correct pieces of equipment, subsequently improving the flow through the department. Importantly, knowing that physiotherapists have the correct materials and tools at their disposal could help the doctors feel more comfortable in referring patients to ED physiotherapy:

It is difficult to balance those competing imperatives of seeing a patient, excluding emergency and movement through so the place doesn't get choked up. How do we get around that problem? Well I guess the answer to that is to have a small area that is allocated to the physios. In that would be a few physio-specific type pieces of equipment in it, a place where they can work and it's quarantined as the physio area (Townsville Doctor 2).

Having appropriate tools of the trade was surprisingly difficult to request in the emergency department setting. The experience of the Austin cohort was that a key to assimilation in the emergency department involved using the patients’ beds, generic ward-based walkers and frames, and any other easily accessible materials. No dedicated physiotherapy area existed in the Austin ED. Part of physiotherapy’s service delivery involved staffing a soft-tissue musculoskeletal clinic for emergency patients (Anaf & Sheppard, 2007a), which had

recently increased from one to two blocks per week. Physiotherapy had quarantined the paediatric section of the emergency department to run these clinics, as paediatric patients were only placed in these beds in the afternoons. However, much of the physiotherapists' interventions relied on manual skills and encouraging referral for ongoing management, with very little equipment needed. Standard hospital beds were used to provide musculoskeletal treatment techniques, but the dearth of physiotherapy equipment located in the emergency department prevented further treatment options such as traction or electrophysical agents, even if clinically indicated, and which have a strong connection to the physiotherapy profession's identity with musculoskeletal management.

8.6.5 The future? Advancing physiotherapy's scope of practice.

Only when there is a strong sense of physiotherapy's professional 'self' and role in the emergency department can steps be made to advance, even extend, the scope of practice. The subtle variations behind the terms 'advance' and 'extend' were outlined in Chapter 2 (Table 2, see p. 22), and provided a key point of debate between the physiotherapists of both cases and the remaining health professionals. In general, physiotherapists in both cases were strong advocates for extending the scope of physiotherapy, as it was seen as a way to enhance professional autonomy and promote the profession's skills and expertise. In contrast, the remaining participants were generally hesitant about physiotherapy having extended clinical privileges, although some were cautiously optimistic that it may help fast-track certain patient populations through the emergency department:

Well you could get the physio to even do the first assessment of a lot of the musculoskeletal injuries and I think if they do it either protocol-based or in conjunction with one of the doctors to assess bone injuries and the doctor, like the only person who can order an x-ray is currently the doctors and the nurses who have done training, so you could protocolise it again for the physios to allow them to order imaging and do it in conjunction with the doctors, but they could do the first assessment and examination and write it up and work side by side in the kind of Fast Track area or the streaming area (Townsville Doctor 1).

For other doctors, physiotherapy extending its scope of practice reflected a broader shift by the health sector to multi-skill professionals, with this rationale seen as a weak decision. Some were fearful that this may lead to a general de-skilling of professions, especially after many years of their own training, while others conceded that it was a realistic part of the evolving emergency system:

Interviewer: So on principle, are you opposed or not opposed to the idea of extending physiotherapy's scope?

Doctor: I feel uncomfortable with it, but I'm realistic [enough] to know that nothing is constant in life except change and so there's always a dynamic in life (Austin Doctor 1).

The physiotherapists at both the Austin and Townsville Hospitals advocated an extended scope of musculoskeletal practice as it gave them the professional freedom to make clinical judgements, supported by investigative procedures such as medical imaging. Conceding that it would take an extremely well-trained and experienced clinician, one Townsville physiotherapist argued that “it would be a very valid idea because . . . physios do have training to do that and in terms of treating musculoskeletal conditions . . . I think it could happen” (TP1). In the experience of the Austin physiotherapists, advancing the physiotherapy role relied on strong professional links to medical sub-disciplines. As one noted, “I think we really need to keep that link with the orthopaedic department and make sure that they’re continually aware of any changes that we make in terms of advancing the role . . .” (AP2). Neither case raised clinical techniques outside of the orthopaedic/musculoskeletal domain in an extended capacity, such as professional relationships with respiratory specialists to advance the respiratory management choices of physiotherapists. Probing deeper, the capacity for ED physiotherapy to act in an extended scope of practice was genuinely attributed to its clinical identity, or as one physiotherapist suggested, how much of a ‘leap of faith’ it was perceived to be. In this context, physiotherapy’s professional ‘self’ was strongly grounded in musculoskeletal medicine:

I think as an extension to primary contact, I think it's got huge scope, I think it's got a lot that we can offer for emergency. It's also not a big jump. There are some things like bronchoscopy; it's a really big jump to be asking a physio to be doing what is essentially a medical procedure. From an extended scope point of view in ED, it's more things along the line of plastering; that's not a huge leap of faith, limited prescribing rights, certainly in discussions amongst the department people say, 'When you see soft-tissue injuries, what's the problem in you prescribing simple analgesics or anti-inflammatories'? It fits in with what you do (Austin Physiotherapist 1).

Not all medical professionals were opposed to having an extended scope of physiotherapy practice. One Austin doctor in particular felt that embracing physiotherapy’s extended practices would enable the emergency department to diversify roles, which she felt was inevitable in future medical care:

I think to be honest, the, you know, the days where only doctors could prescribe and treat patients is, or should be well and truly behind us and I think we need to diversify our roles and I think we need to do it, and there's no reason that we can't do it (Austin Doctor 2).

Offering some specific physiotherapy examples of extended scopes of practice confirmed this doctor’s support for the position:

Interviewer: *Particularly in the UK, which you know about, physiotherapists can have a lot more autonomy and privileges such as limited prescribing rights, limited injecting rights, plastering, that sort of thing. What are your thoughts about physiotherapists having those kinds of roles?*

Doctor: *Sounds perfect.*

Interviewer: *Really?*

Doctor: *Yep.*

Interviewer: *You've got no issue with that whatsoever?*

Doctor: *Well I think as long as, I guess with drugs and that you're always a bit cautious, but obviously there'd be . . . a limit I presume of what they could prescribe, and it depends, a lot of the stuff that they would prescribe will just be stuff that people can go and get over the counter anyway, at least they're getting it now with a bit of useful advice, giving it to them. So I think provided you know, that people are aware of side effects, you know, drug reaction with other stuff that they're taking, so I think provided the pharmacology bits are all seen and sorted, I don't have a problem with it . . . nurses in the States work as nurse practitioners, or you know, whatever they're called, PAs, Physician Assistants (Austin Doctor 2).*

Austin physiotherapists clearly appreciated such positivity regarding extended scope physiotherapy, however the majority of the remaining health professionals interviewed were less enthusiastic, linking extended roles to the previously mentioned theme of 'turf wars'. For example, a doctor in Townsville saw extending the scope of physiotherapy practice as a shortcut solution to the workforce shortage in Australia, but also mused that some services would not exist without evolution of professional roles:

I think it [extended scope of practice] is possibly a trend in some areas because . . . there's a few shortcut solutions suggested for rural communities and one of them is the extended practice nurse. I had reservations about that again because I had to do so much, four years of specialty training as a rural GP before I was allowed to practice independently for a small country town and yet if you do a four year nursing degree, three year nursing degree and a year diploma, you can do the same thing and you just can't achieve the same standard but, some people say it's better than nothing, so it is a solution, so there's a trend there (Townsville Doctor 2).

This doctor's reservations supported the general sentiment from doctors and nurses interviewed. While most were open to the possibility of physiotherapy adopting 'extended' roles such as simple pharmaceutical prescription or plastering in the emergency department, reassurance was needed in the areas of stringent clinical competencies and guarantees that extended roles would not cause de-skilling of other professions. Austin physiotherapists argued that most of the proposed 'extended' services were already in the realm of physiotherapy practice, with many experienced physiotherapists likely to have a smooth transition into the role given the solid foundation of undergraduate and postgraduate learning:

Interviewer: *One of the comments I've had in a previous interview is very, very positive about emergency physio as a concept, but the minute this particular person was asked about extended scope, he said*

'If you want to do that sort of stuff, you go and get your medical degree'. What are your thoughts about that?

Physiotherapist: *I suppose I don't agree with that because I think there are certain aspects that can be learned without needing to acquire the whole medical degree. I think you can do radiology interpreting and also pharmacology, which you do part of it already as an undergraduate, it will just be extending that base of knowledge that you had and I don't think that to do that you necessarily need to know everything else that's involved with being a doctor or having a medical degree, so I tend to disagree with that (Austin Physiotherapist 2).*

Importantly, even though the concept of extending physiotherapy scopes of practice in the emergency department is a new and exciting direction for the profession, the Austin physiotherapists were acutely aware that they needed to be realistic and measured about their clinical boundaries in the current climate of change in the emergency setting:

Interviewer: *What are your thoughts about your hospital or even Australia having extended scope clinicians in physiotherapy in emergency departments?*

Physiotherapist: *I definitely think it will head down that way. I think it's probably important that it does but obviously it's going to take a lot longer than the advanced role because of the changes in legislation that will probably need to occur for that to happen . . . (Austin Physiotherapist 2).*

[Extended scope of practice] is a slightly bigger leap but if anything, I'll probably see it as a progression. It's not that far outside what we are currently doing (Austin Physiotherapist 1).

8.7 Discussion

Twelve emergency department staff members (N=12), six from each hospital (N=6), were interviewed individually to determine their perceptions of how physiotherapy influences the emergency department system. In general, staff from both cases were supportive of introducing physiotherapy into the emergency system, as they believed it had the potential to provide quality intervention for musculoskeletal, respiratory and mobility disorders; encourage the uptake of evidence in the department; and reduce unnecessary medical consultation time. Some of the most revealing findings came from the ED physiotherapists of the Austin Hospital, who had never had their role substantially investigated despite being part of the emergency team for many years. Only one previous study had provided a summary of their role (Anaf & Sheppard, 2007a), but there was no consultation with them as to how they effectively integrated their position into the emergency team.

More than any other stakeholder group, the emergency staff from both cases shared equally strong perceptions of many themes. Table 17 summarises key themes explored by

participants. There was substantial agreement as to the main emergency department challenges, qualities possessed by ED physiotherapists, and pertinent relationships between the emergency department and the community. The greatest case variations emerged in discussion of the clinical skills practiced in the department, attributed partly to demographic differences and partly to the Austin cohort's familiarity with the ED physiotherapy position.

Table 17: Case comparison of emergency staff thematic analysis

| <i>Theme</i> | <i>Stronger perception: Townsville cohort</i> | <i>Equally strong case perceptions</i> | <i>Stronger perception: Austin cohort</i> |
|---|---|--|---|
| Section 8.2 Emergency system challenges | | | |
| Access block and workload | | | |
| Struggling community health sector | | | |
| Section 8.3 Emergency department physiotherapists' clinical skills | | | |
| Musculoskeletal mx | | | |
| Generalist knowledge | | | |
| Elderly care | | | |
| Mobility ax | | | |
| Respiratory mx | | | |
| Vestibular ax | | | |
| Chronic conditions | | | |
| Tropical/ indigenous health | | | |
| Primary contact | | | |
| Section 8.4 Evidence-based practice and streamlining the ED | | | |
| ↑ evidence base practice | | | |
| ↑ early intervention | | | |
| ↑ education | | | |
| ↑ efficiency | | | |
| ↑ holistic approach | | | |
| Section 8.5 Balancing professional autonomy with collaboration | | | |
| Importance of collaboration | | | |
| Risk of conflict | | | |
| Section 8.6 Preserving the professional 'self' | | | |
| Care coordination role | | | |
| Demonstrate trust and competence | | | |
| Importance of professional advocacy | | | |
| Dedicated physio rooms | | | |

8.7.1 Striking a balance in the system

Australian models of emergency department care demand efficiency and clinical effectiveness so that patients are managed promptly and do not consume unnecessary hospital resources. A patient's journey in the emergency system begins with triage categorisation, which determines the time waited to be seen and the condition's priority (Australasian College of Emergency Medicine, 2000). However, problems such as access

block, limited inpatient bed numbers and pressure to conform to VACS/ QACS guidelines have seen staff struggle to find a balance in the system. Every emergency department in Australia is bound by the same guidelines of operation as proposed by the Australasian College of Emergency Medicine (Australasian College of Emergency Medicine, 2005). The complexity of effectively meeting these guidelines of operation proves challenging to staff, who recognise that both cases' emergency departments require systems, order and processes (e.g. triage scales, VACS funding) to keep them running efficiently. Conversely, problems with meeting patients' needs as well as the department's needs arise if the system is too bound by regulations – an inflexible, closed system – because it can not adapt to external changes such as patient demand, resource pressures or staffing shortages (Alderfer, 1980; Keating, 2000). It is clear from stakeholder consultation that both emergency departments need to find a specific balance combining process with flexibility.

Access block is the biggest frustration with the emergency system for staff at both hospitals. Nurses, doctors and physiotherapists agree that access block influences workload, changes the departments' efficiency, and is problematic in both regional and metropolitan areas. Previous studies concur with this research, finding that access block provides major disruption to smooth emergency processes because staff feel pressured to correct the imbalance in the ratio of emergency patient numbers to inpatient beds (Australasian College of Emergency Medicine, 2004a, 2004b; Dunn, 2003; Forero et al., 2004). Especially telling is how the Austin ED, with its brand new facility designed to accommodate demand for the next few decades, already regularly experiences capacity beyond an acceptable number of patients using the department because of its 'novelty' value (AP1). Literature on access block from the beginning of the decade is as pertinent today as it was then (Ashby, 2003; Australasian College of Emergency Medicine, 2004a, 2004b; Baggoley, 1999; Cameron & Campbell, 2003a; Cameron et al., 2002; Dunn, 2003; Forero et al., 2004). Staff do not believe that the access block problem has shifted, and are concerned that its ongoing presence continues to affect patient morbidity and mortality. Contrary to some research (Liew et al., 2003; Richardson, 2002), the staff interviewed do not feel there is any reprieve from the access block phenomenon at different times of day or with different age groups. Arguably, this has important implications for staff morale, as many staff feel dejected about the negative cycle of pressure and frustration that arises from attempting to manage access block.

Finding balance in the emergency system involves collaborating with the community health sector, yet both cases note difficulty in coordinating support from community health professionals. At The Townsville Hospital in particular, staff do not see their regional

community health system as reliable or well-linked to the emergency system. This is one of the most significant case differences, as the Austin Hospital staff cite the benefits of community integration into emergency care, with the ED physiotherapists noting that the effectiveness of their role would be greatly diminished without a reliable community network to which to refer patients. Studies outlining effective ties between the emergency department and the community health sector have reported positive patient and service delivery results, such as reduced repeated presentations to the emergency department (Anaf & Sheppard, 2007a; Moss et al., 2002; Rutledge, 2005). Despite the Austin staff recognising the importance of collaboration with community health professionals, and having established relationships with groups such as Community Link, there are still major barriers to a smooth, coordinated relationship with the community sector. Criticism is levelled particularly towards GPs in what is seen as a breakdown in the care process. Staff are critical of community doctors who refer patients inappropriately to the emergency department, and of the fact there are so few bulk billing facilities in the north-west Melbourne district. The staff corroborate research which argues that those who do not have a usual or dependable source of community care are especially likely to rely on emergency department facilities (Guttman et al., 2001; Malone, 1998; Sarver et al., 2002).

Part of the effectiveness of the Austin Hospital's liaison with the community is the coordinated support provided by the ED physiotherapist in assessing, treating and discharging patients. The physiotherapists and nurses in particular realise that although there are inappropriate referrals to the emergency department from the community, it is important that the community are, in return, provided with an appropriate patient plan upon discharge. Anaf and Sheppard (2007a) raised this issue in an earlier description of ED physiotherapy. They are conscious people can not be turned away from the emergency department until treated, creating a pressure to reduce repeated presentations as a way of managing patient numbers (Moss et al., 2002; Phillips et al., 2006). The evidence for care coordination as an effective way of merging the community sector with the emergency department is strong, especially for elderly patients who consume a large amount of emergency resources (Corbett et al., 2005; Moss et al., 2002; Warbuton et al., 2004). It is validated by the fact that care coordination teams are one of the fastest growing innovations in emergency system restructuring (Taylor et al., 2004).

While the Austin cohort laments the challenges of coordinating care in the emergency department and the community, The Townsville Hospital staff are particularly concerned with what they see as grossly under-resourced and under-developed community resources in their regional centre. The Townsville ED arguably reflects the more 'usual' structure of an

emergency system: containment of care to the department; limited community consultation; and dominant medicine and nursing-led teams (Australasian College of Emergency Medicine, 2005). Allied health teams are not prominent members of the Townsville ED and there are limited opportunities to set up community supports for patients upon discharge (which was also highly criticised by community health stakeholders). The Forster inquiry evaluating Queensland health systems is particularly critical of Queensland emergency departments' lack of community consultation (Forster, 2005). Recognising a dearth of community health resources, such as accessible GP care, means Townsville staff feel compelled to take over that responsibility. They are concerned that providing that sort of care with minimal community involvement perpetuates the cycle of the population relying on the hospital to become a regular source of care, recognised previously (Gill et al., 1996; Guttman et al., 2001; Sarver et al., 2002).

This research proposes that staff in the metropolitan-situated Austin Hospital and regionally-situated Townsville Hospital agree that their services are heavily influenced by what is seen as a lack of community resourcing to support patients' primary health care needs. This is the first known study to illustrate the extent of this problem from the perspective of active, frontline staff members, including physiotherapists. However, the Austin Hospital's model of emergency care reinforces the value of having a link with community health professionals, with concern that the department would suffer even more without Community Link as a viable referral option. This reflects a similar finding from other research (Anaf & Sheppard, 2007a; Moss et al., 2002). Importantly, this current research highlights the opinions of staff as they reflect on the archetypal Australian framework of ED physiotherapy (an emergency care coordination team) (Anaf & Sheppard, 2007c; Taylor et al., 2004; Walker et al., 2006).

Emergency department physiotherapy research from the UK seldom discusses the relationship between the emergency department and the community (Jibuikie et al., 2003; McClellan et al., 2006; Richardson et al., 2005), focussing more on proving clinical efficacy. Arguably, having a thorough understanding of the major emergency system challenges from the perspective of emergency staff helps the department, and the physiotherapy profession, to review how ED physiotherapy can contribute to alleviating the pressures discussed above.

8.7.2 Enhancing clinical care

Staff at both cases confirm previous findings that components of musculoskeletal care are the most appropriate and recognisable role of ED physiotherapy (Anaf & Sheppard, 2007c; Jibuikie et al., 2003; McClellan et al., 2006; Richardson et al., 2005). This further confirms

that physiotherapy's professional identity is still prominently situated in the musculoskeletal realm (Sheppard, 1994). However, one of the newest findings from this research is the importance of ED physiotherapists being recognised as 'specialist-generalists' (Anaf, 2005). For instance, it is revelatory that the Austin ED physiotherapists are loathe to be called 'musculoskeletal physiotherapists' because they believe it restricts understanding and awareness of what they can offer to the position. Recognition and understanding of physiotherapy's role in the emergency department is central to creating a unified, collaborative environment (Cairo, 1996). Yet other staff perceptions of what their role entails typically lean towards the musculoskeletal framework, with secondary consideration of respiratory and care coordination roles. This research highlights the importance of semantics in defining the ED physiotherapy position, as other ED physiotherapy-focussed articles from the UK discuss the position only from the context of musculoskeletal care (Jibuike et al., 2003; Kempson, 1996; McClellan et al., 2006; Morris & Hawes, 1996; Smith & Buckley, 2004).

The Austin model of ED physiotherapy better reflects the scope of clinical competencies advocated by the APC, compared with international literature. The position traverses musculoskeletal, neurological and cardiorespiratory components of care (Australian Physiotherapy Council, 2008; Herbert et al., 2001; Williams et al., 2007), whereas other literature focuses only on musculoskeletal management (Kempson, 1996; McClellan et al., 2006; Morris & Hawes, 1996; Richardson et al., 2005). While particular mention of the physiotherapists' role in managing the elderly clientele may reflect Heidelberg's demographic (Anaf & Sheppard, 2007a; Hough, 2003), it is pertinent to The Townsville Hospital, where staff also felt there was a large elderly contingency requiring emergency services. Literature discussing emergency care coordination models has previously focussed on their impact with elderly patients, arguably due to their complexity of case management, which typically involves ACAT assessments, home modifications, and evaluating the effects of polypharmacy on patients' functional status (Anaf & Sheppard, 2007a; Corbett et al., 2005; Moss et al., 2002; Warbuton et al., 2004). Physiotherapists are seen as appropriately versatile to assume many care coordinator or discharge nurse responsibilities, as this helps these professions free up time to focus on more medically complex patients.

An unanticipated finding raised by the ED physiotherapists at the Austin Hospital was how supportive emergency staff were of them applying vestibular management techniques to patients. This may be considered another illustration of enhancing the uptake of evidence, as physiotherapy manoeuvres such as the Hall Pike and Epley's have a solid evidence base, demonstrating their effectiveness in vestibular conditions such as Benign Paroxysmal

Positional Vertigo (BPPV) (Murray, Carroll, & Hill, 2001; Pollak, Davies, & Luxon, 2002). Latest evidence suggests that the strongest indications for these physiotherapy interventions are for vestibular hypofunction, multisensory dizziness and Menieres Disease (Hansson, 2007). The symptoms associated with BPPV and other vestibular illnesses are known to be very distressing to patients, who experience dizziness, a possible fear of falling and anxiety (Murray et al., 2001). Given that research suggests many patients have a diminished capacity to evaluate the severity of illness because symptoms may seem grave and highly troublesome, necessitating a visit to the emergency department (Guttman et al., 2001; Sanders, 2000), the fact that physiotherapy has proven techniques to manage these patients may represent another pertinent yet under-researched example of applying evidence-based techniques within the emergency environment.

One dimension of clinical care most meaningful to the Townsville cohort is the idea of having ED physiotherapists to clearly communicate medical plans to Aboriginal and Torres Strait Islander patients. There is evidence that communication of medical advice and interpreting the needs of the indigenous community is woefully inadequate in Australia, despite the best intentions of health professionals (Andrews, Simmons, Long, & Wilson, 2002; Cass, 2004; Cass et al., 2002). Studies such as Cass et al. (2002) show that miscommunication between health professionals and indigenous patients comes down to more than language barriers. Lack of community resources, the inappropriateness of the biomedical model to indigenous patient care and different constructs of medical knowledge contribute to difficulties in providing effective, ongoing indigenous health care (Cass et al., 2002). The value of ED physiotherapy, from the Townsville cohort's perspective, centres around the capacity for physiotherapists to effectively link patients to TAIHS and collaborate with Aboriginal Liaison Officers to coordinate care of indigenous patients. Thus, trans-cultural communication is a necessary component of a Townsville model of ED physiotherapy, but is much less obvious within the Austin framework of ED physiotherapy. This represents a potent case difference.

Emergency department physiotherapists encouraging evidence-based practice in the department is a new domain uncovered by this research. To the researcher's knowledge, no prior studies have revealed that emergency staff in Australia believe physiotherapy will assist the department to adhere to evidence-based guidelines of care. Literature has shown that physiotherapy is a clinically effective addition to emergency departments; for example demonstrating clinical accuracy when prescribing MRI (Jibuike et al., 2003), and efficiently and appropriately managing ankle soft-tissue injuries (McClellan et al., 2006). Yet to date there has been no evidence that the frontline staff see physiotherapy as assisting them to

improve clinical care by helping them to apply more consistent evidence-based practice. Staff at both hospitals concur that ED physiotherapy, in theory and practice, promotes early intervention for non-urgent musculoskeletal cases, encourages the prescription of exercises and promotes greater levels of education, all of which have a positive impact on patient care (Kempson, 1996; McClellan et al., 2006; Morris & Hawes, 1996). Staff at the Austin Hospital also comment how physiotherapists, in focussing on less urgent cases, have the ability to spend more quality time with patients, advising and assessing them, leading to improved patient rapport. This has also been identified in the literature (Gordon, 2007; McClellan et al., 2006; Watt et al., 2005).

Spending ample time with patients appears contrary to the aims and roles of an emergency department in its traditional sense. Staff findings may indicate a willingness to alter the emergency department models of care to consider the role of non-traditional staff, such as physiotherapists, who are seen to have more time to apply evidence-based interventions with patients (Ball, Walton, & Hawes, 2007). It can be argued that focussing time on non-urgent cases, such as musculoskeletal soft tissue injuries, enhances departmental efficiency because it frees up medical professionals' time, which is more appropriately spent with acute and complex medical cases (Forster, 2005; Oldmeadow et al., 2007).

Finally, the concept of holistic practice was raised as a dimension of care that could distinguish physiotherapists from other emergency team members. Patients tend to offer feedback about being highly satisfied with emergency care when they feel they have been 'attended' to and 'cared' for, as opposed to just being 'managed' (Watt et al., 2005; Wellstood et al., 2005; Wiman, Wikblad, & Idvall, 2007). Only minimal evidence has been found looking at the caring dimensions of ED physiotherapy (Gordon, 2007), however this research proposes caring dimensions to be an important research direction. Emergency department physiotherapists are known to provide more educative strategies and spend more time with patients. Both are well received (Ball et al., 2007; Gordon, 2007; McClellan et al., 2006). Some of the physiotherapists recognised that they may be seen as offering limited patient management, treating only musculoskeletal-type conditions for instances, but they used holistic practice as justification for this. Physiotherapists see time spent questioning, thoroughly assessing, treating, educating and discharging patients as a valid use of their time, as it encourages discharge into the community with follow-up plans in-situ to avoid re-presenting to the emergency department for the same problem. This is confirmed by Ball et al. (2007) who found that ED physiotherapists referred patients to outpatient physiotherapy services for follow-up significantly more than other medical and nursing clinicians in the emergency department.

What constitutes holistic practice, especially in the emergency setting, is difficult to define. The physiotherapists feel that they offer holistic care by routinely considering psychosocial dimensions of patients' problems, such as plans to return to work or sport upon discharge, as well as the quantity of time spent with patients. Whether this is a genuinely sufficient application of holistic practice in the emergency setting should be the subject of future research, as holistic care is difficult to achieve in the emergency department because there is substantial fragmentation of care and roles (Olive, 2003). Displaying positive outcomes directly related to improved 'holistic' practice, as encouraged by ED physiotherapists, would provide strong support for the future implementation of the role nationally, especially through satisfying and alleviating patient fears about their emergency experience (Gordon, 2007).

8.7.3 Collaboration and professional identity

Potential collaborators with ED physiotherapists go beyond traditional medicine and nursing partners to include ALOs, psychologists and extended acute care professionals at The Townsville Hospital, and emergency consultants, various allied health professionals, Community Link staff and discharge coordinators at the Austin Hospital, as reported by staff. Previous research by Anaf and Sheppard (2007a) and Taylor et al. (2004) has alluded to a variety of different professional relationships with ED physiotherapists, but specific ED physiotherapy research has focussed mainly on comparing clinical abilities with doctors and nurses (Jibuike et al., 2003; McClellan et al., 2006). Staff discuss how, depending on the relationship forged, physiotherapists need to adapt their approach with health professionals to communicate ideas. For example, ED physiotherapists at Austin Hospital felt it necessary to have a strong sense of professional confidence to advocate for different patient interventions, especially if medical staff have not previously considered them. Reciprocally, ED physiotherapists describe the benefit of having emergency consultants as professional 'mentors', a concept not described in previous literature.

One of the more contentious issues with ED physiotherapy is the potential for conflict as physiotherapists apply more advanced techniques and assert their authority over patient care. This was raised by both cases and is a primary barrier to an effective working environment if not suitably discussed between staff. For instance, some emergency doctors and nurses at The Townsville Hospital, where there is minimal ED physiotherapy involvement, are concerned that physiotherapists have an easier inroad into the department. One doctor in particular was frustrated at the thought of physiotherapists having rights to refer to radiology, given his own extended journey through medical school and internships to earn the privilege. His sentiments are reinforced in research discussing extended privileges for

emergency nurse practitioners, with emergency medical practitioners suspicious about nurses trying to supersede their medical responsibilities (Cairo, 1996). One of the lessons that ED physiotherapy must take from this study is to clearly communicate their professional intentions – to advance physiotherapy practice rather than act as a substitute for medicine – as this is central to several concerns with ED physiotherapy (Australasian College of Emergency Medicine, 2005; Australian Medical Association, 2004, 2006; Cairo, 1996).

Physiotherapy aspires to collaboration with the community health sector but this is difficult to implement in the culture of emergency medicine. Most staff members in both cases hope and anticipate that ED physiotherapists will act as a link between a patient's acute management, their discharge process and ultimately their transition to the community. Research shows that a collaborative emergency system that includes the community sector as well as patients in discussions around treatment and future plans will improve patient care, teach better use of GP services as opposed to emergency departments and improve the psychosocial factors of frequent visitors to the department (Beales, 1997; Bristow & Herrick, 2002; Phillips et al., 2006). The Austin ED physiotherapists have recognised this benefit through their care coordination roles and have forged strong relationships with Community Link to refer patients onwards. In contrast, The Townsville Hospital has no official model of community referral and should be encouraged to adopt one in the event of formalising ED physiotherapy services.

Preserving a sense of professional identity and 'self' is the final theme that is meaningful for physiotherapists in order to belong to the emergency environment. No research is known to have recognised this in the context of the emergency system. Advocacy, professional development opportunities and peer support ensure that the physiotherapists retain a sense of professional identity. Staff, patients and community health professionals strongly identify ED physiotherapy with musculoskeletal medicine, consistent with the literature (Jibuikie et al., 2003; Lee & Sheppard, 1998; McClellan et al., 2006; Richardson et al., 2005; Sheppard, 1994). Yet, in adopting other responsibilities such as care coordination and discharge planning roles, which are known to be clinically effective as a multidisciplinary team structure (Phillips et al., 2006), it is important that ED physiotherapists do not lose their affiliation with the profession and physiotherapy department in the hospital while taking on non-traditional tasks such as discharge coordination with nurses.

Preserving a professional identity has only emerged from the Austin case and is specifically mentioned in relation to the clinician who takes on a generalist caseload. The Austin model of ED physiotherapy has several clinicians with different patient foci. Continual affiliation

with the physiotherapy department and advocacy groups like the APA is perceived to assist the clinician who has a minimal musculoskeletal caseload. Professional development opportunities may improve the sense of 'physiotherapy identity' that the ED physiotherapists mention may be at risk is taking on a large care coordination role that is otherwise indistinguishable from nursing and other allied health staff in a similar position. Importantly, physiotherapists at the Austin Hospital see other advanced practitioners, such as ENPs, as having a powerful network of clinicians supporting their continual integration into the emergency department. They advocate for the physiotherapy profession to offer the same level of support – a united front. Strong connections to the physiotherapy department may also be one way that staff within the emergency system realise physiotherapy's aims are to advance their professional practice, not to supersede or mimic medical and nursing roles, which had been raised previously as a possible barrier to the uptake of advanced practice roles in the emergency department (Cairo, 1996).

8.7.4 Perspectives on 'the system'

Staff confirm that the emergency departments are complex, pluralist systems. Their perspectives on ED physiotherapy as well as problems with emergency department operations show potential for agreement and resolution on how the system can better operate, but they have different views on how to achieve this. An obvious example surrounded the theme of 'role delineation versus conflict', where there was a political barrier to letting different professions, such as physiotherapy, assume roles traditionally reserved for other team members.

The traditional biomedical culture of the emergency department has perpetuated a medical hierarchy. However, findings from these staff interviews show surprising concessions from doctors and nurses to allow physiotherapy to work in the emergency department system, especially at the Austin Hospital where they have witnessed the success of ED physiotherapy first-hand with independent management of a vestibular caseload and the creation of an emergency-based musculoskeletal clinic. Importantly, staff have not reflected on physiotherapists being just another profession in the department replicating a service. They outline a unique skill base that physiotherapy can bring the department, including a clinical interest in musculoskeletal medicine and the longer-term rehabilitation of patients.

A soft systems perspective seeks to strategically resolve problems that are ill defined and those that have a focus on cultural and political aspects of the system (Checkland & Scholes, 1990; O'Meara, 2002). In the emergency department context, there remains a political undercurrent surrounding role delineation and the degree of physiotherapy's professional

autonomy and overarching responsibility. Introducing physiotherapy into the emergency department system augments these concerns as the profession is autonomous and self-regulating, yet must adapt to a tightly medically-controlled environment. Culturally, physiotherapy can integrate into the emergency department because there is a long history of blending into broader hospital culture (Bentley & Dunstan, 2006). One could argue that because physiotherapy has a framework surrounding a biopsychosocial approach to health care, it could be advantageous to the emergency department. As a first-contact profession, physiotherapists are efficient in treating patients not only from a medical perspective but also from taking into consideration a more holistic view of co-morbid health and social influences.

Just as patients were frustrated by how they are ‘processed’ in the system, emergency staff are burdened by the expectation to convert the volume of patients with severe and minor conditions into healthier *outputs* (Figure 29).

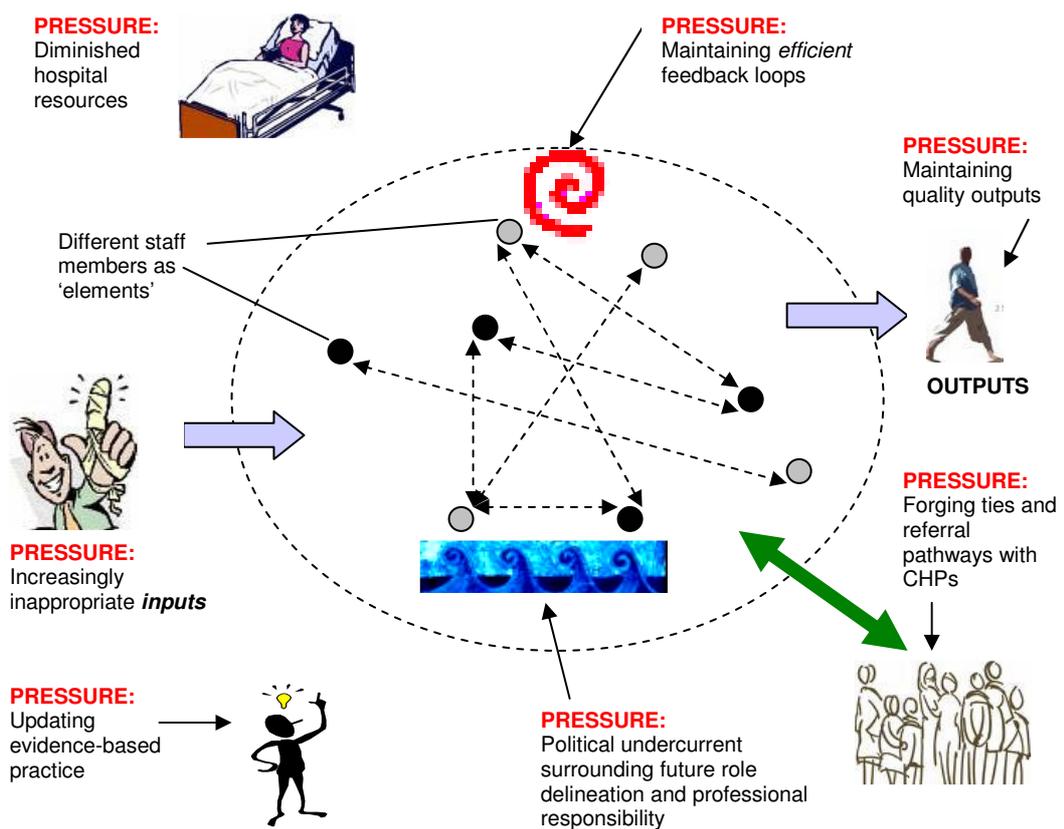


Figure 29: ED staff perspectives on the system

Problems arise after the patients have been triaged and entered into the emergency department system, as the challenge is for staff to move patients onwards in the face of minimal inpatient beds and poor community referral pathways. Contrary to the patients’

perspective, staff are concerned that the quality of their *outputs* (patients being appropriately discharged) is at risk, with difficulty continually updating evidence-based practice or being able to follow through with patients' complicated social and medical presentations in the emergency setting (Figure 29).

Physiotherapy in the emergency department may prove to be a critical relationship because staff believe the profession can further encourage an evidence-based approach to patient management while treating many non-urgent cases and forging appropriate links with external health care providers. However, some staff members, both doctors and nurses, are still cautious about ED physiotherapy's role as they seek to protect their clinical turf (Figure 29). Some are uncomfortable with relinquishing certain professional roles, such as control over prescribing medical imaging. This must be considered with future implementation of ED physiotherapy as it may cause dysfunction/ destabilisation in forging the necessary collaborative partnerships to effectively process patients through this complex pluralist system.

8.8 Conclusion

Emergency department staff feel burdened by many components of the emergency department system, including the volume of patients, the pressure to provide patient care and the limited resources available (Figure 29). Importantly, most participants see ED physiotherapy as an advantageous direction for the department, able to treat minor injuries, musculoskeletal conditions, respiratory ailments and other problems. They anticipate ED physiotherapists to be experienced, multi-skilled professionals who can alternate between autonomous clinicians and team players. The ED physiotherapists interviewed value being considered part of the emergency team and have developed a skill base involving a high level of clinical problem solving and anatomical knowledge, and have emphasised building relationships with traditional medical and nursing authority in the department.

The generalist nature of the emergency departments' caseloads must be supported by ED physiotherapists having a generalist knowledge base. While medical and nursing participants easily identify a role for physiotherapy in musculoskeletal care (consistent with the other stakeholder groups), the physiotherapists, particularly from the Austin Hospital, warn about the restrictions this may place on the future of the position, devaluing the physiotherapy role in more complex medical cases and other opportunities to alleviate the demands on medical and nursing staff. Considered negotiation with emergency staff around the clinical responsibilities, level of involvement in care coordination, community-based referral pathways needed and level of professional autonomy are vital in creating a model of ED

physiotherapy that reflects the clinicians' knowledge and experience, and the complexity and dynamic nature of the emergency department system.

9 Conceptual Model Development

9.1 Introduction

This chapter unites the theoretical constructs of systems theory with the main results obtained from the three stakeholder group investigations to propose ‘conceptual’ models of ED physiotherapy practice. By definition, these models combine the theory of systems frameworks with findings consistent across the stakeholder domains to encourage a way of thinking when implementing an ED physiotherapy service. Therefore, this chapter considers ED physiotherapy in three spheres/contexts: 1) in the sphere of systems theory; 2) in the context of professional practice in the emergency environment; and 3) in the sphere of the health system.

Both cases are firstly considered in relation to their adherence to systems theory principles. Section 9.2 discusses how the Austin ED and The Townsville ED can be aligned with systems diagrams as drawn by Flood and Jackson (1991). Section 9.3 unites common findings from across the three stakeholder studies to conceptually illustrate agreed components of ED physiotherapy clinical care. Section 9.4 concludes the chapter by demonstrating a final conceptual model of ED physiotherapy’s role in the broader health system.

9.2 In the sphere of systems theory

A system is defined as an organised assembly of components that share a special relationship with each other...The interactions of the components of a system give it a unique behaviour, with each component contributing to, as well as being affected, by it . . . Within a system, groups of components may form subsystems with their own unique properties. Boundaries separate the system from an external environment, however the system will receive inputs from its external environment as well as providing output to it (Sturmberg, 2004, p.1033).

This definition was first proposed in Chapter 3 as the most relevant theoretical description of a system for this thesis. Stakeholders in the emergency department can be reduced to the concept of ‘elements’ interacting with each other: the department boundary is flexible and dynamic; and the combination of stakeholders providing a service is more potent than each profession or the department working in isolation (the whole is greater than the sum of its parts) (Figure 30) (Flood & Jackson, 1991).

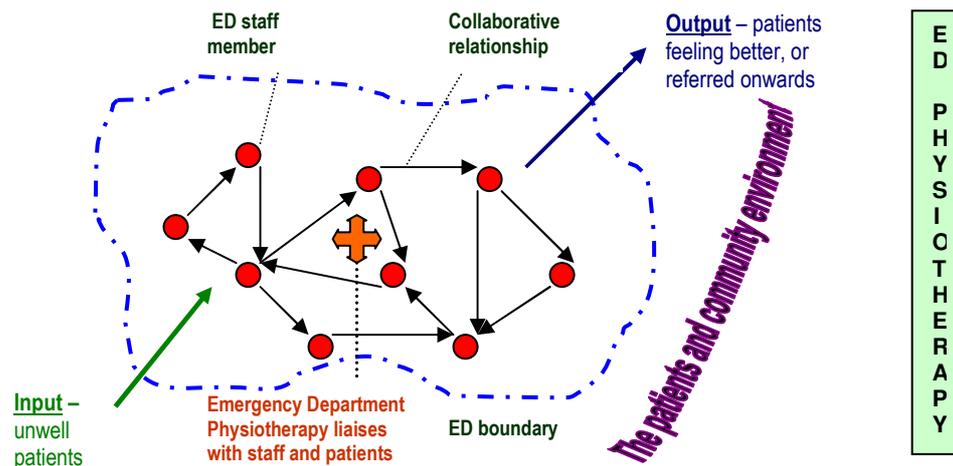


Figure 30: Systems theory and emergency department physiotherapy

Physiotherapy's place in the emergency department can be reduced to the basic concept of a system as proposed by Flood and Jackson (1991) (Figure 30). Physiotherapy as an emergency department profession requires collaborative relationships and continuous feedback within the team about patient care, and has a duty to turn inputs (the unwell or inappropriate patient referrals) into outputs (improved patients or patients appropriately referred onwards). This is physiotherapy in the emergency department at its simplest.

There are noteworthy differences between the Austin and Townsville Hospitals' emergency systems. Austin's ECCT changes the way allied health, especially physiotherapy, is distributed across the emergency system (Figure 24, p. 137). As part of a dedicated allied health network, ED physiotherapy at the Austin Hospital acts as a filter by having a cyclical arrangement in the department. A process of assessment, treatment and discharge coordination, in conjunction with other emergency health professionals, seeks out non-urgent cases, elderly patients with a high risk of re-presenting due to complex medical needs and those requiring ongoing community supports as a matter of routine within the department (Figure 31).

Being situated within the emergency department means that physiotherapy services are constantly visible and easy to refer to. Transforming patient inputs into patient outputs, ideally enhancing the effectiveness and efficiency of care, relies on a mutual understanding between emergency staff members of what physiotherapy can provide, the boundaries of their professional autonomy and a willingness for emergency staff to collaborate with ED physiotherapists to improve patient care.

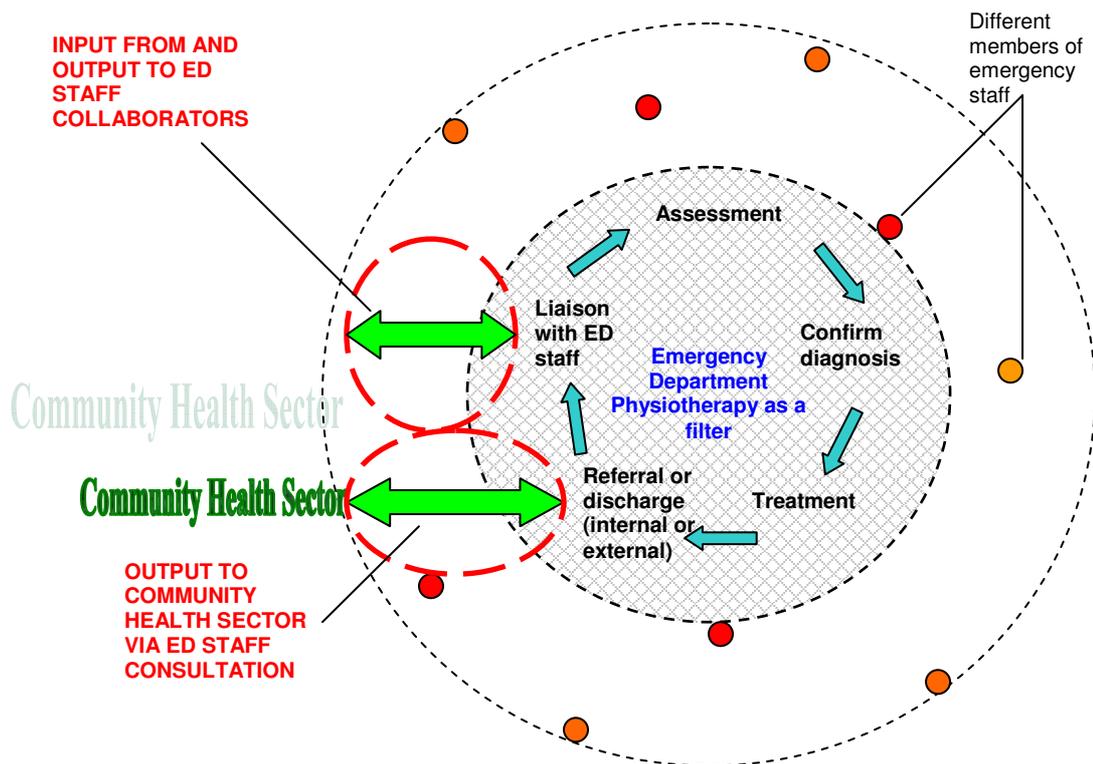


Figure 31: Austin Hospital’s Emergency Department physiotherapy service as a filter

Figure 31 expands on the original conceptual model, drawn from the observations in Chapter 5 (see Figure 24 on p. 137), to illustrate how Austin Hospital’s dedicated ED physiotherapy services assume a routine of assessment, diagnosis, management and referral due to a central relationship with other emergency department staff members. Emergency department physiotherapy as a ‘filter’ can siphon triaged patients who have come to the emergency department either inappropriately, self-referred or been sent by their community health care provider. Physiotherapists can provide first-contact evaluation and management with a view to discharge and referral to more appropriate community services while minimising the involvement of other emergency doctors and nurses.

Emergency department physiotherapy can also ‘filter’ patients towards their services upon referral from other emergency staff, including those at high risk of re-presenting; those with complex medical needs and difficulty achieving daily living activities; or those at risk of comorbidity (e.g. vestibular deficiencies causing a fall). Arguably the greatest level of professional collaboration and understanding of roles is needed under these circumstances of within-team referral to avoid inappropriate use of physiotherapists’ time.

Stakeholders have different expectations of ED physiotherapy, the clinical conditions it will manage, how it relates to the community health sector and the appropriate dimensions of interpersonal care or caring competencies that should be provided. Emergency department

physiotherapy must have a strong sense of its role and place within the emergency system in order to meet these competing objectives. The Austin Hospital’s way of achieving this is to foster relationships with the emergency medicine and nursing fraternities through giving and receiving regular inservice sessions about what physiotherapy and emergency medicine provides to patients, encouraging mentorship of physiotherapists by medical consultants and partially situating physiotherapy into a care coordination role.

There are clear processes and expectations that physiotherapy will ‘filter’ elderly patients and those with complex social histories to ensure that community supports, additional referrals and care plans are attended to compulsorily (Figure 31). Having only a partial care coordination role, ED physiotherapists experience a degree of professional autonomy whereby they may independently diagnose and manage other medical conditions, such as musculoskeletal and vestibular problems, within the scope of physiotherapy’s professional practice. Collaborative relationships and mutual understanding of professional responsibilities are therefore at the heart of the Austin Hospital’s ED physiotherapy system.

As The Townsville Hospital has yet to implement a dedicated ED physiotherapy service, the position’s role in the emergency system is less visible. While staff and patients have an understanding of what physiotherapy may provide for the emergency department, there is a much greater degree of fragmentation in relation to physiotherapy within the system (Figure 32).

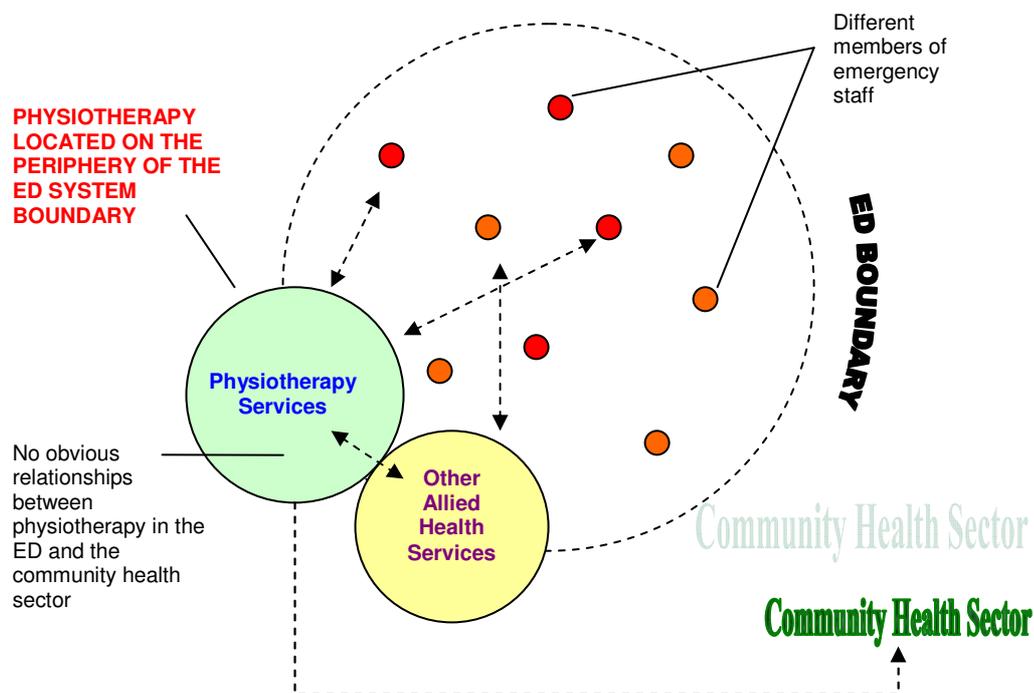


Figure 32: Physiotherapy’s link to The Townsville Hospital Emergency Department

Where roles and responsibilities were transparent at the Austin Hospital, physiotherapy in Townsville is located on the periphery of the emergency department at 0.5 FTE and has no official care coordination role. The physiotherapist is firmly situated within the physiotherapy department and makes routine visits to the emergency department. There appear to be no formalised relationships between the emergency department staff and the physiotherapist, and no obvious links between the physiotherapists and health professionals in the community to coordinate discharge referrals. Emergency staff may or may not make a request for physiotherapy services, depending on the clinician's availability.

Physiotherapy services are permanently located within the emergency department boundary at the Austin Hospital, but not at The Townsville Hospital. This crucial detail makes it difficult for the Townsville system to operate effectively as the scope of physiotherapy intervention is limited by its location outside the emergency department boundary (Figure 32). It is challenging for the physiotherapist to be a visible element within the system, who can forge intra-departmental relationships with other staff elements and make a genuine impact on the conversion of inputs to positive outputs.

Critical features of physiotherapy raised by stakeholders can be aligned with systems theory by considering value to the broader emergency environment. Table 18, which summarises the critical evaluation of data in a systems framework, is adapted from O'Meara (2002), who proposed this as a subjective way to judge the qualities of a service against broader system considerations. Boundary permeability in Table 18 does not refer to emergency department boundary but rather the vulnerability of a specific feature of physiotherapy in the emergency system.

A systems theory perspective is invaluable in reflecting on how physiotherapy may succeed or struggle with integrating into the emergency department. For example, the researcher judges interprofessional collaboration as displaying a low degree of risk because it is intrinsic to the profession and is considered to be successfully applied by emergency staff participants at the Austin Hospital. In contrast, Austin's ED physiotherapists view demonstrating a comprehensive package of personal qualities, including an extensive, experienced knowledge base, professional confidence, efficient work ethic and the ability to work autonomously, as one of the most critical features of implementing an effective service (high boundary permeability). Employing an inappropriate clinician strongly risks undermining the perception of physiotherapy's contribution while the position is in its infancy by unsettling traditional emergency staff or limiting the opportunities to broaden its scope of practice in the future. This theoretical perspective may act as a useful tool to

highlight risks in proposed ED physiotherapy models and may even offer a way of evaluating the service on an intermittent basis.

Table 18: Critically evaluating elements of data in a systems framework

| Feature of Emergency Department Physiotherapy | Observations & Data Interpretation | Degree of Boundary Permeability (Risk) |
|--|--|--|
| <i>ED physiotherapy service goals</i> | ED physiotherapists interviewed have a clear sense of their place and clinical boundaries. Nursing and medical staff have a generally supportive but have limited understanding of physiotherapy's professional scope and motives. | MEDIUM Driven by the ED physiotherapists through a process of consultation, education and promotion of roles and skills but the position is still limited by a hierarchy of medical decision making and authority. |
| <i>Interprofessional collaboration</i> | Strong emphasis on multidisciplinary care and patient consultation. Strong sense of positive communication perceived by stakeholders – this is strongly engrained in physiotherapy practice and standards. | LOW Currently a quality being successfully achieved in the Austin ED. This is intrinsic to the individual physiotherapist as well as the physiotherapy profession. Risk that an inappropriate physiotherapist will shift the positive dynamic forged – minimal room for error. |
| <i>Evidence-Based Practice</i> | Reasonable perception of ED physiotherapy enhancing evidence-based practice, especially for musculoskeletal conditions. General desire for ED systems to improve their uptake and administration of evidence-based practice. | MEDIUM Evidence-based practice is driven by ED physiotherapist's clinical practice yet there is a risk that negative evidence for physiotherapeutic intervention may be used to justify whether to continue ED physiotherapy services by internal and external management. |
| <i>Clinical Objectives and Practice</i> | Clearly defined potential in musculoskeletal management, respiratory care, mobility assessment and care coordination/ aged care. | MEDIUM Clinical objectives are flexible but potentially limited in scope due to the ED environment and the direction of higher ED medical authority. There is also a lack of formalised policies governing ED physiotherapy practice. |
| <i>Personal Qualities</i> | Qualities include high level of broad professional knowledge, confidence, listening skills, willingness to learn, an ability to work autonomously and in team structures and an efficient work ethic. | HIGH Integration into the ED requires a certain 'type' of physiotherapist. Failure to employ a person willing to mould him or herself into the ED culture strongly risks creating a negative perception of physiotherapy's role in the ED. |

(Adapted from Alderfer, 1980; O'Meara, 2002, p.220)

Systems theory dictates that a system has a boundary, that within the boundary are confined elements which forge relationships, and the feedback loops created by these relationships will directly influence the ability to convert inputs from the environment into outputs that return to environment. Elements of the service should be aligned to a degree of boundary permeability as a way of ‘reality-testing’ that component of service provision to the wider environment (Table 18). This is significantly easier to achieve at the Austin Hospital, as physiotherapy is a tangible element in the emergency department as a permanent fixture within its boundary. This is not the case at The Townsville Hospital, meaning that forming relationships and feedback loops from *outside* the department boundary is much harder to accomplish from a systems theory perspective. An effective ED physiotherapy service ideally will be permanently situated within the emergency department as a bona-fide additional element.

9.3 Professional practice in the emergency department

Emergency departments in Australia are established in a uniform fashion, with core staff members and clinical objectives (Australasian College of Emergency Medicine, 2005). Physiotherapy is likely to confront many similar clinical conditions and service delivery problems regardless of the emergency department’s location. A successful ED physiotherapy model will meet generic emergency department needs while being flexible to the individual hospital’s specific demands and challenges.

While the Austin Hospital and The Townsville Hospital emergency departments are fundamentally similar in their staffing structure and departmental objectives, obvious differences are noted in their demographics, level of remoteness and climate. These differences are not sufficient, however, to demand completely revised models of ED physiotherapy practice for the specific hospitals. Evidence of this lies in the number of similarities in physiotherapy practice raised by patients, community health professionals and emergency staff in the two cases.

In both cases and across all groups, five distinct clinical components are anticipated: musculoskeletal care; respiratory management; mobility assessment; the coordination of elderly patient care; and provision of patient education (Figure 33). These points have been raised in previous research, but in isolation. UK models of ED physiotherapy routinely describe *musculoskeletal care* (Kempson, 1996; McClellan et al., 2006; Richardson et al., 2005; Smith & Buckley, 2004); *education, mobility assessment* and *respiratory care* have been cited by a small number of Australian studies (Anaf & Sheppard, 2007a; Gordon, 2007); and care coordination research, which includes physiotherapy, typically targets

elderly patients as a way of organising their assessment, management and discharge (Anaf & Sheppard, 2007a; Taylor et al., 2004; Walker et al., 2006). Yet this current research is the first known study to unite the opinions of patients, community health professionals and emergency staff to determine core clinical competencies anticipated of Australian ED physiotherapy practice.

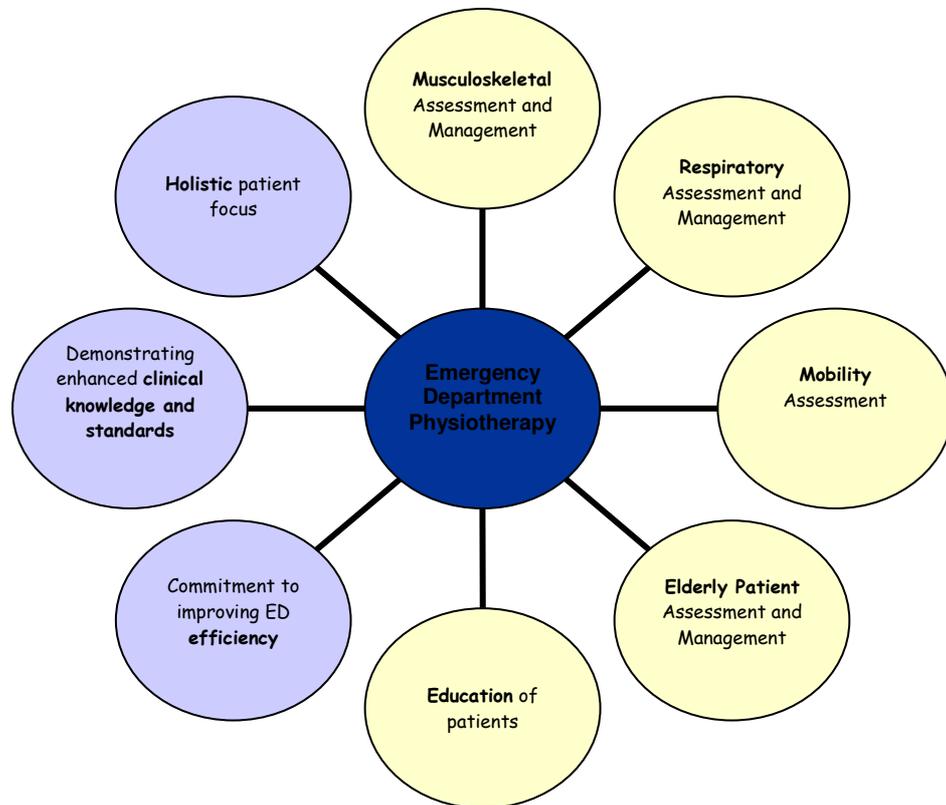


Figure 33: Core components of emergency department physiotherapy

Three additional dimensions influence professional practice in ED physiotherapy. Every stakeholder group cites the role of physiotherapy in assisting the department to manage patients more *efficiently*; that physiotherapy either demonstrates (Austin) or will be important to demonstrate (Townsville) *high levels of clinical knowledge and standards*; and that the profession’s *holistic focus* provides peace of mind and a different perspective to clinical care. These have important implications for achieving emergency department service goals.

Participants describe frustration, reduced efficiency, a sense of pressure to meet everyone’s medical needs in a minimal amount of time and the burden of waiting as major symptoms of emergency department service delivery problems. As these problems are so potent – they were among the first issues raised by all stakeholder groups – future outcome-based justification of ED physiotherapy should logically demonstrate how the position will

improve efficiency. Although raised in previous international research (Jibuike et al., 2003; McClellan et al., 2006), this is an appropriate research direction in an Australian context that is yet to be explored.

Demonstrating a high level of clinical knowledge and standards is an essential component of ED physiotherapy practice (Anaf, 2005). It is especially meaningful for the Austin ED physiotherapists as they prove their 'value' in the emergency system. Historically, the position has been met with cautious acceptance. The most effective way to alleviate resistance to the position is by showing clinical effectiveness. Many of the doctors and nurses interviewed recognise that musculoskeletal and soft-tissue medicine is not their primary focus in the emergency department. Showing a high level of clinical knowledge around these fields fosters trust, respect and acceptance of physiotherapy into the system. It also allows the profession to take on other unanticipated areas of clinical practice, such as vestibular management, as physiotherapists can prove positive effects on patients' symptoms. Therefore, further research exploring a physiotherapist's transition into an emergency system, and charting the influence on the assimilation process of having an advanced level of clinical knowledge would be an interesting and useful qualitative direction, because, anecdotally, ED physiotherapists see this as an essential component of becoming a team member.

A holistic patient focus is critical to ensuring that psychosocial components of health are addressed in conjunction with the presenting illness or injury. Components of holism include listening, framing the patient's injury in the context of their lifestyle and living situation, and modifying communication patterns on an individual basis (Cass et al., 2002; Olive, 2003). The emergency department, with its fragmented sources of care and overt time pressures, may unintentionally skimp on holistic practice as the system is not conducive to this (Nystrom et al., 2003; Olive, 2003). Further, the prevalence of non-urgent or minor conditions presenting to the emergency department is known to take a lower priority in most emergency staffs' minds, leaving patients dissatisfied with the caring components of their visit (Gordon, 2007; Olive, 2003; Watt et al., 2005; Wellstood et al., 2005).

Emergency department physiotherapists are in a special position to attend to the biopsychosocial components of health, as each of the stakeholder categories recognises their potential to manage less severe cases across a variety of health conditions as first-contact clinicians, consultants within a team structure or discharge/care coordinators. Research indicates that ED physiotherapists spend a longer time with patients managing a variety of their health and social needs (Anaf & Sheppard, 2007a; Ball et al., 2007; McClellan et al.,

2006), leading to very strong satisfaction ratings among patients who feel that physiotherapists better explain information, listen more attentively and help them to transition back to the community (Anaf & Sheppard, 2007a; Gordon, 2007; Kempson, 1996; McClellan et al., 2006).

Holistic practice is something to which emergency department staff aspire but may find difficult to implement. This research proposes that ED physiotherapy in Australia could find its niche as an advanced practice, which adds an obvious holistic approach to care within the emergency system. The profession's expertise across musculoskeletal, neurological, cardiorespiratory and exercise physiology domains makes it versatile enough to manage acute and chronic conditions from diagnosis through to discharge (Australian Physiotherapy Council, 2008), yet its grounding in the biopsychosocial model of health means clinicians can approach the patients' needs from a different perspective than the emergency departments' biomedical framework (Wilson, 2005). An ED physiotherapist, as a 'specialist-generalist' clinician, also differs from a traditional ward-based physiotherapist whose responsibilities are traditionally grounded in biomedical features of patients' conditions, such as improving bilateral lower lobe air entry before discharge. Instead, the ED physiotherapist must combine their biomedical knowledge within the context of a broader biopsychosocial framework as they may be the primary treating and discharging clinician throughout the patient's emergency department experience. There is a much greater responsibility to assess features of the patient's lifestyle, living situation and support networks in order to facilitate safe and timely discharge.

9.4 In the sphere of the health system

Emergency department physiotherapy should belong to three sectors: the physiotherapy department and profession; the emergency department; and the broader health system (Figure 34). Clinicians will be professionally accountable to these components of the health system. Clinical techniques, referral pathways, collaborative relationships and outcome-based measurements should highlight positive benefits to all departments and systems. Such procedures should empower staff through defining their roles, boundaries and identity in the emergency system, improving the uptake of evidence, fostering equal professional relationships along a more horizontal hierarchy, and forging greater links between the primary and tertiary health sectors.

Emergency Department Physiotherapy Belongs To . . .

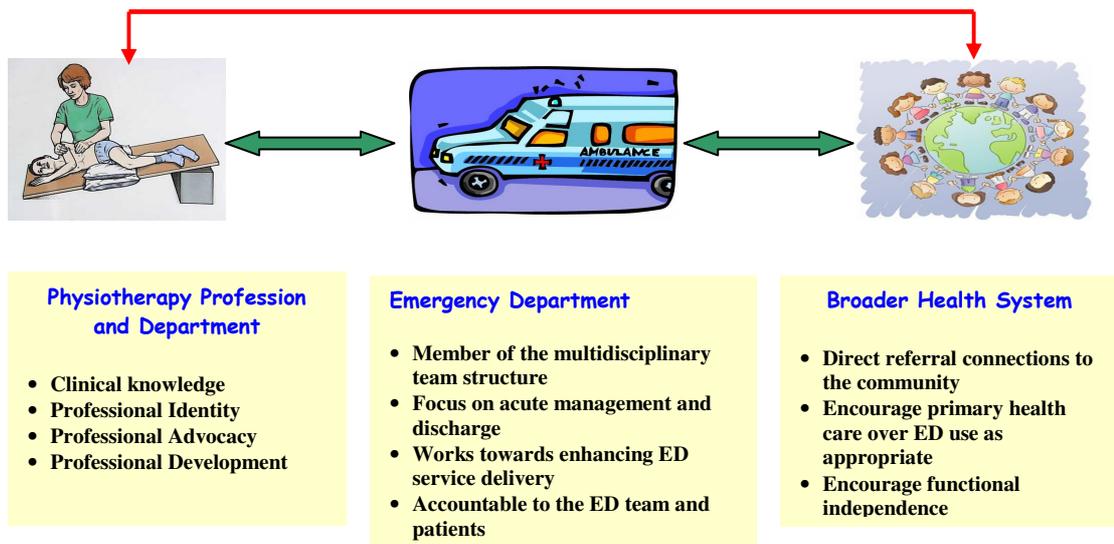


Figure 34: Ownership of emergency department physiotherapy

Emergency department physiotherapy’s connection to three different health locales defines its identity, its goals and its future (Figure 34). Emergency department physiotherapists must retain connection to the overarching physiotherapy department because this is the direct source of professional development opportunities, peer support, advocacy and their rightful ‘home’. Physiotherapists at the Austin Hospital and The Townsville Hospital both reported very close ties to the physiotherapy department, but the extent of the connection was more obvious at The Townsville Hospital, where the physiotherapist covered the emergency department 0.5 FTE and also worked on other hospital wards, reporting back to the physiotherapy department daily. This differed from the Austin Hospital physiotherapists, who began and ended their work day in the emergency department.

Introducing a specific ED physiotherapy service in The Townsville Hospital should encourage greater presence in the emergency department than is currently demonstrated. Presently, emergency department liaison is limited due to the position being rotational, open to base-grade clinicians and only a part-time caseload. In contrast, the work environment at the Austin Hospital is contained to the emergency department, permitting semi-regular contact with the physiotherapy department via email, journal clubs and professional development sessions. It leaves little doubt that these physiotherapists work and belong in the emergency environment. Traditional emergency medical and nursing staff adopt physiotherapy as a routine part of emergency care, and witness any developments in the profession’s scope of practice.

Although some emergency staff reported being concerned about clinical privileges ED

physiotherapists may receive, they tended to be from The Townsville Hospital where the physiotherapist is much less visible in the emergency system. Those at the Austin Hospital who came into regular contact with the ED physiotherapists reframed this viewpoint to acknowledge that the health system is dynamic, change is necessary and physiotherapy is one way to attempt to alleviate service delivery burdens.

Emergency department physiotherapy can be a vital link between the emergency department and the community sector through care coordination and outpatient referral (Ball et al., 2007; Phillips et al., 2006). This thesis reinforces the valuable connection to the broader community health sector. Many of the community health stakeholders did not have obvious links to the emergency system. They were frustrated by the quality of information provided about their patients upon discharge from the emergency department, as well as their own community workload. Conversely, emergency staff were bothered by the volume of non-urgent cases, directing many criticisms towards the GPs. Townsville participants were particularly critical of what they saw as a grossly under-resourced community health sector.

Care coordination and effective discharge planning, either for minor injuries or complex, chronic health conditions can be physiotherapy's contribution to smoothing the transition between the community and the emergency department (Anaf & Sheppard, 2007a; Lopopolo & Keehn, 1997; Phillips et al., 2006). However, care coordination requires sharp decision-making skills to make clinical judgements on patients' levels of independence and is recognised as a skill to be performed by an experienced clinician (Lopopolo & Keehn, 1997). While care coordination may streamline the emergency system and foster greater communication and official referral processes between community health professionals and emergency staff (Beales, 1997), which would greatly satisfy the community health stakeholders, the underlying causes for the failure of the health system to service the volume of patients will not be solved by this strategy alone. This must be the subject of ongoing planning and development in the Australian health care system.

Using the opinions of different stakeholder groups to develop Figure 34, it is clear that ED physiotherapy involves many more roles than those acknowledged in the past in the literature, and by policy-makers, patients and clinicians. The conceptual models and systems framework provide a useful outline for The Townsville Hospital to reflect on the services it has yet to provide, and for the Austin Hospital to evaluate its current processes.

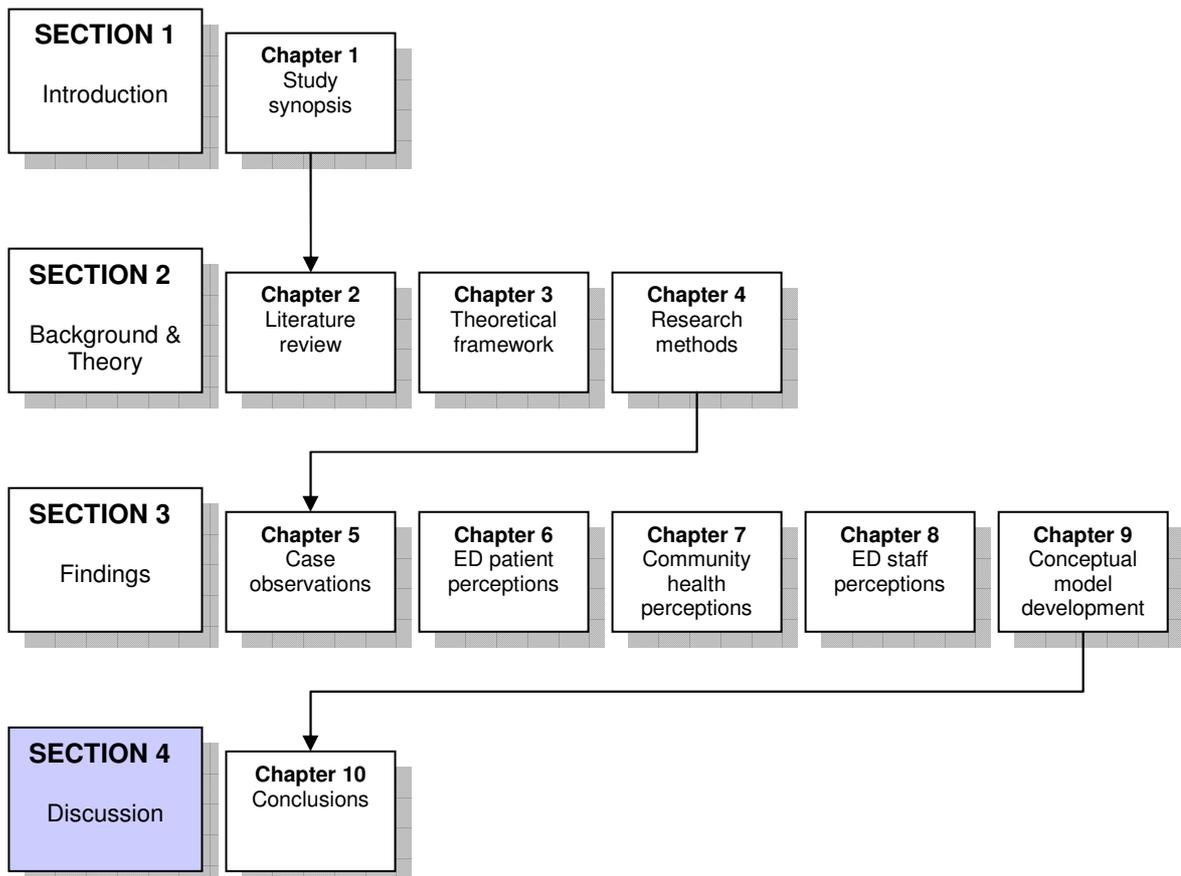
9.5 Conclusion

Three categories of models are proposed for ED physiotherapy, based implicitly on the different stakeholders' views of the position. The most challenging part of the conceptual modelling process was trying to find a way to unite the varying perspectives without losing the sensitivity of the case comparisons or letting one stakeholder population dominate the others.

Figures 31 and 32 (pp. 277, 278), illustrating the integration of physiotherapy into both cases, may be seen as returning to the initial conceptual illustrations of the Austin and Townsville EDs and confirming what the researcher initially witnessed. That is, what was observed of both cases was an accurate reflection of how the systems operated, following stakeholder analyses. Figures 33 and 34 (pp. 282, 285), highlighting core clinical competencies and the position's ownership, are new contributions to the ED physiotherapy evidence base, hopefully helping to direct subsequent research into further examining their validity and relevance in the context of Australian practice, or even testing their usefulness in the establishment of an ED physiotherapy service.

SECTION 4

DISCUSSION



10 Conclusions

10.1 Introduction

Unlike earlier ED physiotherapy research, this thesis offers a unique theoretical framework integrating physiotherapy into the emergency ‘team’ of doctors, nurses, community health professionals and patients. It is the first known study where stakeholders have been given the opportunity to describe what they understand ED physiotherapy to be, how they believe it influences the emergency system and what they generally believe the position can offer The Townsville Hospital or the Austin Hospital. Taking a qualitative approach to data collection and analysis provided substantial, detailed information from the individuals’ perspectives. Adopting an ‘inverted pyramid’ towards the development of data collection methods helped to appropriately broaden and narrow the depth of inquiry within the stakeholder groups.

This research proposed an innovative *interpretivist-systems theory–case study* research framework. Blending the three elements not only appropriately confined the research to the two hospitals under investigation, it drew out meaningful, personal reflections that could be viewed from an individual context as well as part of the bigger emergency department/community sector picture (Anaf et al., 2007). This was a significant and unique approach to physiotherapy research.

A salient synopsis of research findings is now aligned with the research questions with a view to illuminating appropriate future research directions. A summary of key findings and their relationship to existing literature is presented in Table 19.

Table 19: Summation of research themes and findings

| Thematic concerns | Existing literature | Existing research deficits | Thematic answers |
|--|---|---|---|
| Multiple stakeholder perceptions of ED physiotherapy practice. | None identified specific to multiple stakeholder perceptions of ED physiotherapy. Anaf and Sheppard (2007a), Gordon (2007) and Kempson (1996) provide the only qualitative investigations of ED physiotherapy. | There is no research on what different ED stakeholders understand ED physiotherapy to be, how it influences service delivery and what features are necessary of the clinicians employed. There is minimal research from a qualitative perspective on ED physiotherapy. | This study has identified that ED physiotherapy has strong links to musculoskeletal, respiratory and mobility physiotherapy; can particularly assist the needs of the elderly; and should provide a strong educative component to management. This is combining all stakeholder perceptions. Thesis section: Chapters 2, 6, 7, 8, 9 |

| Thematic concerns | Existing literature | Existing research deficits | Thematic answers |
|--|---|--|---|
| <p>Research aim</p> <p>Different stakeholder descriptions of the role of physiotherapy in the ED/ what stakeholders expect it to provide in the context of their environment.</p> | <p>Anaf and Sheppard (2007a) Anaf and Sheppard (2007b)</p> | <p>Research has not been conducted on different stakeholder perspectives of ED physiotherapy. It is limited only to descriptions of the musculoskeletal services physiotherapy could provide in the ED context.</p> | <p>Stakeholders collectively allude to ED physiotherapy improving efficiency, providing high standards of clinical knowledge and offering a more holistic focus in the ED. An ED physiotherapist should have a high standard of experience/ knowledge, personal confidence, awareness of communication strategies for different cultural groups, the ability to work autonomously and in a team environment. Clinical foci are on musculoskeletal, respiratory, mobility and aged care domains, but there is significant variability within the clinical cases managed, including vestibular illnesses and sports injuries.</p> <p>Thesis section: Chapters 6, 7, 8, 9</p> |
| <p>Research aim</p> <p>How do the different stakeholders consider physiotherapy will contribute to the effectiveness and efficiency of the emergency department?</p> | <p>Taylor, Bennett and Cameron (2004) Anaf and Sheppard (2007a) Phillips et al. (2006)</p> | <p>There is minimal research exploring how ED physiotherapy improves service delivery. At best, there is evidence to suggest that ED physiotherapy integrated into a care coordination structure can help with patients' discharge and community transition.</p> | <p>Collectively, stakeholders see efficiency being improved by being able to manage less urgent cases, free up doctors and nurses' time, assist with the discharge process. Effectiveness of ED care is partly improved with ED efficiency improving, but also by promoting greater uptake of evidence-based practice, education and quality musculoskeletal management.</p> <p>Thesis section: Chapters 6, 7, 8, 9</p> |
| <p>Research aim</p> <p>What networks and partnerships are perceived to be the most effective or important to establish?</p> | <p>Anaf and Sheppard (2007a) Phillips et al. (2006) Jibuike et al. (2003)</p> | <p>Networks and partnerships related to ED physiotherapy have been limited to the context of care coordination teams (e.g. nursing, social work, occupational therapy) and the immediate ED environment.</p> | <p>This study has identified that the community health sector is an important connection to the emergency department. ED staff and community health professional stakeholders view ED physiotherapy as a viable link between patients' acute management and the accurate description and coordination of discharge information for patients' community follow-up care. ED physiotherapy will ideally have ties to the physiotherapy department, the emergency department and the broader community health sector for comprehensive patient management and retaining a sense of professional identity.</p> <p>Thesis section: Chapters 7, 8, 9</p> |
| <p>Research aim</p> <p>What are the potential implications for strengthening ties with external primary care providers?</p> | <p>Literature confined to care coordination studies. Moss et al. (2002) Philips et al. (2006). Anaf and Sheppard (2007a).</p> | <p>There is no clear research perspective on how ED physiotherapy's ties with community health professions will streamline clinical care or improve patient outcomes.</p> | <p>Implications include a stronger perception of ED system efficiency by community health professionals; better education regarding appropriate ED use for non-urgent patients; improve follow-up community management of patients with e.g. musculoskeletal/ respiratory/ vestibular/ chronic conditions.</p> <p>Thesis section: Chapters 7, 8, 9</p> |

| Thematic concerns | Existing literature | Existing research deficits | Thematic answers |
|---|---|--|--|
| Research objective Conceptual models of physiotherapy's integration into the emergency department system. | None identified specifically highlighting physiotherapy's integration into the ED system. Physiotherapy has been previously cited as a member of care coordination teams by Anaf and Sheppard (2007 a,b), Brandis, Murtagh and Solia (1998), Walker et al. (2006) and Taylor, Bennett and Cameron (2004) | No research has definitively highlighted a breadth of clinical conditions appropriate to be managed by ED physiotherapy; how the position is best situated within the ED system; a connection to the community health sector as well as being contained within the ED setting; and the 'ownership' of ED physiotherapy in Australia's health sector. | Conceptual models are proposed: <ul style="list-style-type: none"> • Within the realm of systems theory; • Considering key clinical and professional dimensions of care as collectively described by the stakeholder cohorts; • In the context of the broader health system as a way of illustrating ownership of the ED physiotherapy position. Thesis section: Chapter 9 |

10.2 Stakeholder expectations and interpretations of physiotherapy's role in the emergency department

I think if you were going to be a physiotherapist in the ED, you have to be like the rest of the staff in ED, and that's multi-skilled across a number of disciplines... (Townsville Doctor 1).

Stakeholders view the emergency department as a complex environment driven by many different health professionals who should provide efficient, clinically effective care at all times. Issues of concern include access block; a lack of resources such as beds, personnel and funding; and poor service availability between primary care providers, such as GPs for patients in the community, meaning many members of the public seek health care via the emergency department. Conversely, patients reflect on how their emergency experience shapes their perception of the emergency department, most frequently criticising long waits for medical attention, a lack of communication and information from staff, and the department being physically uncomfortable.

Physiotherapists' clinical knowledge, professional autonomy, and focus on acute and chronic health management make physiotherapy a profession ideally suited to coordinating the care of some patients from the emergency department into longer-term community management, as needed. Patients attending the emergency department with isolated non-urgent conditions or chronic problems needing physiotherapy input may be promptly attended to, assessed, treated, educated and discharged with appropriate follow-up appointments and strategies, which encourages greater streamlining of care without losing a focus on quality health management.

Understanding what patients expect from ED physiotherapy is useful for matching their

expectations with the profession's future development in this field. This study is significant because it adds this dimension of knowledge to the ED physiotherapy evidence base. Patients at both The Townsville Hospital and the Austin Hospital perceive ED physiotherapy to involve a variety of manual strategies such as massage or manipulation, and to attend to conditions related to the musculoskeletal system. A notable case difference is that the Austin patient cohort sees physiotherapy as also providing a relevant role in managing respiratory ailments and impaired mobility, whereas this was less of a priority for the Townsville cohort. Both cases agree that receiving more detailed education and information about their presenting conditions would be a valuable addition to patients' management plan, and physiotherapy is well recognised as having the knowledge and communication strategies to provide this service. The interpersonal dimensions of care in the emergency department, of which patients were so critical, such as lack of comfort and support, reassurance and pain management, are perceived to be an important component of care provided by physiotherapists that has the potential to improve the patient's emergency experience.

Like the patients, GPs, community-based nurses and community-based physiotherapists believe physiotherapy can add a valuable educative role to emergency department care. Health professionals in the community see a more diverse range of roles for physiotherapists than the patients. However, GPs in particular are still focussed on physiotherapy providing a clinical service biased towards musculoskeletal medicine. Nurses and physiotherapists described in their questionnaire responses other clinical physiotherapy domains, such as assisting patients to move, and offering an acute rehabilitation service as well as treating acute and chronic respiratory complaints.

One of the most significant findings of this thesis is that health professionals in the community interpret physiotherapists to be a valuable link between the emergency department and the community sector. It is clear from both the literature and this research that there is a failure in the health system for patients to receive adequate acute community care, resulting in often unnecessary trips to the emergency department for assessment and treatment (Guttman et al., 2001; Malone, 1998; Sarver et al., 2002). This is a palpable source of frustration for all stakeholder groups. Forging collaborative networks between the emergency department and the community has the potential to provide the community sector with more accurate discharge and patient information, greater awareness for stakeholders about the service capacity and roles of emergency departments and community health services, and a continuity of care for patients by having physiotherapy assist in the referral to ongoing allied health, medical and nursing management upon discharge. It is a significant finding that community health professions consider physiotherapy to be a viable link

between the emergency department and the community in this diagnostic and referral capacity.

Emergency department staff view physiotherapy as having a primary role in acute musculoskeletal and respiratory care, as well as education, mobility assessment and exercise prescription. Staff cite more diverse roles than other stakeholder groups, including physiotherapists treating vestibular conditions, chronic conditions and specific indigenous health issues requiring cultural sensitivity. They anticipate physiotherapy providing a high level of clinical knowledge, and a capacity to work both autonomously and within the department's team culture. While several emergency doctors and nurses are reluctant to see physiotherapy act as an extended scope of practice, especially in The Townsville Hospital, some recognise that, given health care is a dynamic system which evolves to accommodate the community's needs, it may be appropriate for physiotherapy to assume some more advanced roles such as prescribing x-rays or assisting in patient triage.

This thesis uncovers a valuable finding in that, according to the ED physiotherapists interviewed, the position is much more appropriately established within the framework of a 'generalist' skill capacity, rather than a hospital specifically employing an experienced musculoskeletal physiotherapist with limited other clinical experiences. No research to date has identified the appropriate skill base for Australian ED physiotherapists. Therefore this research is useful for shaping future recruitment to such a service. Having a generalist skill base allows the clinician to branch out into other treatment domains, such as vestibular management, to raise the profile of the profession's knowledge base among other emergency staff. The diverse knowledge base of a 'generalist' physiotherapist complements emergency medical care's diverse nature. As one doctor noted, the field is "a jack of all trades, master of a few".

Tables 12, 14 and 17 account for case comparisons within each stakeholder group. The different geographical and demographic environments of Townsville and Melbourne mean that the context and foci of the health system varies. For example, Townsville has a real need to address Indigenous health issues and maximise health awareness among the Indigenous population, as the emergency department manages a variety of acute and chronic health conditions experienced by Indigenous people with limited access to community health services. In contrast, the Austin Hospital must manage the needs of an elderly demographic, seeing a role in mobility and respiratory care become much more prominent for the ED physiotherapists. This thesis proposes that the case comparisons are not ample enough to justify completely new models of ED physiotherapy practice being developed for each

individual hospital. There is sufficient commonality across the stakeholder perceptions, however, to define ED physiotherapy clinical practice (Figure 33, see p. 282). Figure 33 can potentially act as a point of reference for future hospital emergency departments who wish to establish a physiotherapy service, as it appears that the core competencies proposed satisfy a wide variety of stakeholders' demands.

Research Objective Summary

- *Patients, community health professionals and emergency staff at both The Townsville Hospital and the Austin Hospital describe ED physiotherapy as involving musculoskeletal, respiratory, mobility, aged care and educative components of management.*
- *Collectively, stakeholders expect ED physiotherapy to improve efficiency of the ED, enhance the quality of clinical knowledge and standards in the ED, and provide a greater holistic patient focus.*
- *Key case comparisons are based around the demographic needs of the individual regions, such as Indigenous health issues in Townsville and aged care burdens in Melbourne.*
- *Individual case differences are not sufficient to justify brand new models of ED physiotherapy being applied to each Australian hospital – there is potential for a baseline model of ED physiotherapy to be implemented in hospitals with sufficient flexibility to adapt to local demand and needs.*

10.3 Stakeholder perceptions of the contribution physiotherapy makes to the emergency department system

I think to be honest, the days where only doctors could prescribe and treat patients is, or should be, well and truly behind us and I think we need to diversify our roles and I think we need to do it, and there's no reason that we can't do it (Austin Doctor 2).

Viewing the emergency department as a 'system' is an important framework. The combination of emergency and community health professions and the expectation to manage all types of illnesses, injuries and their severity contributes to the emergency department being both dynamic and unstructured. The emergency department is further sensitive to social, political and financial influences within, and external to, its boundary. The value of considering the emergency department in the context of systems theory is that the scope of investigation is limited to only the human elements of a system – the key stakeholders. The research concentrates on gathering different stakeholders' interpretivist viewpoints and identifies key case comparisons or agreements. Models proposed in this thesis are founded on collective views; they are not isolated to a physiotherapy-only perspective.

Physiotherapists have the potential to not only autonomously assess, diagnose, treat and

discharge non-urgent clinical cases, especially involving the musculoskeletal system, but the position may act as a clinical ‘filter’, redirecting patients within the emergency and hospital system, and liaising with health professionals in the community to ensure that patients’ follow-up management is being provided (Figure 31). A positive influence on the emergency department system is the ability for experienced physiotherapists to meld seamlessly between working autonomously on non-urgent clinical conditions and working collaboratively with a wider team of doctors, nurses, administration staff and allied health professions on complex case management. Physiotherapy is recognised to have both the quality of communication and breadth of knowledge to assist in diverse patient management.

In order to advance the roles and responsibilities of ED physiotherapists in Australia, an understanding is needed of physiotherapy’s position within the emergency department. Very few stakeholders understand how physiotherapy can assist the department across the clinical spectrum. Stakeholders such as emergency staff external to physiotherapy should be given the opportunity to contribute to the clinical structure and review process of ED physiotherapy so that the position may be continually revised to meet broader departmental needs. Working alongside, and being accountable to, different stakeholders through consultation will better satisfy the needs and objectives of all human elements within the emergency department system. This will also help physiotherapists become recognised as bona fide emergency department professionals.

Emergency department physiotherapists may help the emergency system by acting as a conduit between the department and the community health sector. Stakeholders see a role for the position to link emergency patients in with appropriate allied health services outside of the emergency department and provide a level of patient detail in the discharge information that acknowledges their clinical and social situation. Given that ED physiotherapists are known to spend greater time with patients during their assessment and treatment (Ball et al., 2007; Kempson, 1996; McClellan et al., 2006), they may be able to provide a depth of detail on patients’ discharge summaries and liaise directly with other allied health professionals in the community to supplement the quality of information exchanged between the two environments. This is one of the advantages of having physiotherapy integrated into an emergency care coordination role (Anaf & Sheppard, 2007a, 2007c; Phillips et al., 2006).

An unanticipated finding is that emergency department staff stakeholders believe physiotherapy may assist in encouraging better evidence-based practice, especially with musculoskeletal techniques. This may have a valuable influence on the clinical management of patients. Greater education of patients, assigning more time to apply latest exercises and

musculoskeletal techniques, and recommending follow-up allied health appointments as needed are ways that may ensure effective management of the course of injury or illness in both the short and long term. Staff at both hospitals cited difficulty finding the time and inclination to provide evidence-based practice beyond the bare essentials for non-urgent conditions. An example given by one Melbourne doctor was reluctance to follow Ottawa ankle rules procedures with suspected fractures, with other doctors and nurses admitting that non-orthopaedic, closed injuries are a low priority that they are often disinclined to manage. Physiotherapists recognise that early intervention and regular review by outpatient clinicians may go a long way to preventing co-morbidity or musculoskeletal instability. However, it is unclear how quantifiable this effect is on service delivery problems such as repeat presenters and patients' long-term health outcomes.

Emergency department physiotherapists have the opportunity to capitalise on other emergency staff members' hesitation to dedicate extra time and apply evidence-based techniques by assuming such roles. It may benefit the emergency system by supplementing clinical care with research-based techniques and assessments, ensuring that patients are thoroughly assessed and the correct course of management administered. Staff in emergency departments, for example the Townsville doctors, already recommend patients seek out the services of physiotherapists upon discharge. Having physiotherapists permanently situated within the emergency department can streamline patients into outpatient physiotherapy or allied health sooner if they can not be treated and discharged autonomously in the emergency department.

The stakeholders investigated – emergency doctors and GPs; emergency and community nurses; emergency, ward and community physiotherapists and patients – are all valid participants within this research. Each has a link to ED physiotherapy, either directly through the department's multidisciplinary structure or indirectly by receiving the emergency department patients as 'outputs'. There is appropriate scope to research ED physiotherapy's relationship with other allied health professions in the context of both an emergency care coordination team and the broader hospital system, as this has been intentionally omitted to contain the scope of this study.

Research Objective Summary

- *This research frames the various stakeholders as human elements of the emergency department system. This is an innovative perspective to physiotherapy research.*
- *Key influences of physiotherapy in the emergency department system are the potential to reduce caseload burdens on medical and nursing staff, treat non-urgent patients with relative autonomy and enhance the uptake of evidence-based techniques (e.g. for musculoskeletal management).*
- *Physiotherapy is viewed as a viable conduit between the emergency department and the community health sector.*
- *Emergency department physiotherapists may form effective relationships with other emergency staff, community health professionals, patients and the physiotherapy department (Figure 34).*

10.4 Conceptual models of physiotherapy's integration into the emergency department

Conceptual models are broader and more fundamental than scientific theories in that they set the preconditions of theory formulation. [They] provide a working strategy, a scheme containing general, major concepts and their interrelations (Jarvelin & Wilson, 2003).

The conceptual modelling process unites the researcher's observations of the two emergency departments with the different stakeholders' perceptions. Each participant has a role in the system, which creates competing needs and objectives for ED physiotherapy. For example, patients are predominantly interested in receiving clinical care whereas emergency staff may be preoccupied with the deeper political consequences of physiotherapy advancing its scope of practice into the emergency department. Therefore, this research takes these differing stakeholder perspectives, ranging from apprehensions and suggestions to supportive reflections, and synthesises them to highlight how physiotherapy can best be integrated into the emergency department system. To recap, the three categories of conceptual models developed are:

- Emergency department physiotherapy as a clinical filter (Figure 31) versus ED physiotherapy as an external entity (Figure 32);
- Core clinical competencies (Figure 33); and
- Ownership of ED physiotherapy (Figure 34).

Using systems theory to guide conceptual model development is a unique approach in physiotherapy service delivery research. The overarching theoretical framework already considers the interrelationship of different human elements in the emergency department, so a visual representation in the form of models is a logical progression to inform, or reflect on,

clinical practice. Systems theory as a methodology is also sensitive to cultural, social and political components of the emergency department that have been gathered from the stakeholders via qualitative data techniques.

These conceptual models are not designed to be working clinical models of practice. Rather, they are abstractions from stakeholders' perceptions to highlight the major agreed components of emergency department physiotherapy. As O'Meara has commented on previous systems theory and health research:

[Conceptual models] are nonetheless abstract systems and do not exist. In the real world, service delivery models are messy and imperfect, with service delivery models more likely to be amalgams of different models in response to their local contexts, and confused and contradictory policy imperatives (O'Meara, 2002, p.10).

As theoretical concepts, they are designed to provoke discussion, inspire empirical research and encourage collaborative stakeholder meetings to further refine the ED physiotherapy position. Particularly for facilities such as The Townsville Hospital, the conceptual models act as a useful point of reference to guide parameters of practice; in particular forging ties with local community health professionals. For the Austin Hospital, the models allow the physiotherapists to reflect on their current practice as well as better understand how patients, other emergency staff and organisations such as Community Link feel about what ED physiotherapy offers the system.

The integration of physiotherapy into the emergency department is vital to the success of the position. For example, preserving physiotherapy's clinical identity, access to patients and visibility of the profession to emergency staff all influence the value and acceptance of the ED physiotherapy role. Physiotherapists being experienced enough to balance clinical autonomy with effective team participation fosters trust, respect and awareness of clinical boundaries to better define ED physiotherapy's role.

Physiotherapists as part of the ECCT at the Austin Hospital have encouraged a network of appropriate internal and external relationships to manage aged care patients. These include respite facilities, and community occupational therapists and physiotherapists via Community Link. For complex case management, such as a diabetic patient with a Colles fracture to her wrist on the arm that injects insulin, physiotherapists have the clinical knowledge to contribute to patient treatment, and are appropriately linked to the physiotherapy department and external community health providers to ensure that all possible treatment solutions may be brainstormed. The same networks may be achieved at The Townsville Hospital. While the stakeholders' perceptions indicate this would be an ideal

collaborative arrangement, successfully integrating physiotherapy into the emergency department is likely to be impeded by the current physical and professional distance created by having physiotherapy firmly defined as a rotational, base-grade position external to the emergency department.

Research Objective Summary

- *Conceptual models are abstractions of the stakeholders' views that may guide future implementation of ED physiotherapy in Australia.*
- *Integration of physiotherapy into the emergency department is vital to the position being recognised, accepted and used appropriately.*
- *The community health sector should be considered an extension of the emergency department when it comes to forming collaborative networks.*
- *Core clinical competencies represent the agreed roles of ED physiotherapists across the cases and stakeholders. Individual hospitals will need to further consider local demand and need in developing an ED physiotherapy service.*

10.5 Limitations and recommendations

Using the conceptual models to inform clinical practice will be a challenging task, given their abstract nature. However, based on the findings of this thesis, a more unified approach to implementing ED physiotherapy, considering the views of all parties, is desirable, given the multidisciplinary context of emergency department care. Emergency department physiotherapy can better meet the patients' and department's needs if it is recognised as an emergency department entity. Recruitment to the position must be carefully considered, as this research raises the likelihood that other stakeholders will give minimal room for error for physiotherapy to demonstrate its effectiveness. Conversely, showing initiative to explore atypical case management, such as treating vestibular problems inspired by evidence-based techniques, can boost the profile and acceptance of the position within the emergency system.

Future ED physiotherapy services may find it useful to evaluate the position in the context of systems theory. Table 18 (see p. 280) could be used to assess how the emergency department and physiotherapy is structured at a specific hospital. It encourages clinicians to evaluate which ties in the hospital have been, or should be, formed, what the scope of their clinical interventions involve and what is happening to the patients once they leave the emergency department's care. Effective and reliable links to the community health sector are crucial to the ongoing management and education of patients. It helps to raise community members' awareness about the responsibilities and uses of the emergency department so that people

better understand the emergency system's limits.

Core clinical competencies act as a starting reference for developing a physiotherapy service in the emergency department. These are by no means a complete and finite list of clinical boundaries but are seen to be accepted and useful ways for physiotherapy to provide care. Appropriate explanations about physiotherapy's scope of practice to emergency department staff would be valuable in promoting the role and reducing incorrect referrals to physiotherapy. Further, the scope of practice represented by Figure 33 (see p. 282) confirms the Austin Hospital's ED physiotherapists' request to be considered as 'specialist-generalists' and that future recruitment be aligned to this context.

As stated earlier, this research is significant in that it presents views on ED physiotherapy from many different perspectives in two disparate regions, which has not been investigated previously. However, limitations of the research must be acknowledged. Firstly, interpretivist theory unapologetically embraces subjectivity and the meaning behind different participants' thoughts and views. This is known as *weltanschauung* in SSM. By focussing on stakeholders' perceptions only, the research displays limited objectivity because findings are not based on empirical evidence or clinically-proven fact. Therefore, what is uncovered under the circumstances of this research will not be perfectly replicable in the context of another study – the findings are truly unique – even though the research methods are replicable. However, subjectivity need not be a symptom of a lack of rigour. Section 4.10 provides a description of strategies to preserve rigour, including member checking, developing an auditable trail of research and assessing inter-rater reliability of coding.

Secondly, the scope of the research was contained by investigating two cases only; one with a formal ED physiotherapy service and one without. The cases differed in their demographic profile but were similar in size and structure. Findings from this research are only applicable to the Austin and Townsville Hospitals, although the conceptual models should be useful for other Australian facilities. The research is only applicable to the Australian context of ED physiotherapy practice. Models of service delivery in the UK, for instance, have a different focus and direction, and are more heavily biased towards promoting ED physiotherapy as an autonomous, isolated field (Anaf & Sheppard, 2007c).

Finally, there is scope to introduce additional elements of the emergency system for a more comprehensive evaluation of ED physiotherapy. This research is limited by only focussing on human elements in the emergency department, albeit in depth. Additional elements worthwhile pursuing include funding contributions, and how government and hospital

policies influence the system. A multi-centre trial adopting these additional elements within a systems theory framework would be a very comprehensive and useful post-script to this thesis.

10.6 Future research directions

There is no limit to the research directions for ED physiotherapy. There is a dearth of well developed empirical evidence, especially within the context of Australian practice. The value of consumer and staff perspectives on ED physiotherapy should not be ignored in the future, as it may perpetuate the cycle of stakeholders being removed from health service development and research. This is supposedly contrary to best practice in the Australian health system (Forster, 2005).

An action research-based study would be a logical progression to this thesis. Systems theory traditionally applies an action research method as a way of identifying, modifying and reassessing problem situations in a real-life context. Prior to nationwide implementation of ED physiotherapy, it would be clinically relevant to identify barriers to implementation of the position. The action research component enables reflection on whether there have been changes to the socio-political environment or medical culture within the emergency department; whether identified ‘problem-contexts’ are being effectively managed with a physiotherapy service; and how the volume of presentations and patient through-put is modified with the advent of ED physiotherapy. This would ideally suit an emergency department, such as The Townsville Hospital, that does not have a permanent ED physiotherapy service as described by this thesis.

Further research can explore ED physiotherapy from different angles within a systems theory framework. Elements that were stakeholders in this research can instead become emergency department resources, different clinical conditions or different departments within a broader hospital framework (Anaf et al., 2007). Sooner rather than later, questions must be asked regarding how many hospital resources the physiotherapy position consumes and the extent to which this is matched with positive patient outcomes (Richardson et al., 2005). This will provide useful, clinically-based information surrounding the cost consequences of an Australian position as there are no concrete statistical data highlighting the monetary and health value of ED physiotherapy. Directions for future research, beyond the scope of this dissertation, should consider the influence of the health workforce, job innovation strategies and ED physiotherapy’s influence on, or reaction to, Casemix-style funding arrangements.

Using a unique research method, this thesis has achieved its objective of developing and presenting conceptual models of physiotherapy's integration into the emergency department system (Figures 31-34, Chapter 9, pp. 277-285), which makes a significant contribution to the physiotherapy evidence base. Emergency departments can use the conceptual models to evaluate the level of stakeholder engagement in creating or assisting ED physiotherapy services. How closely the physiotherapist is adopted within the emergency department boundary is a useful first step in a system evaluation (Figures 31 and 32). These figures can assist physiotherapists to critically evaluate what connections are in place to encourage professional development in both physiotherapy and emergency departments, foster awareness of role delineation, and explore connections between the emergency department and the external community. Reflecting on who 'owns' the service can be aligned with the more holistic ownership perspective proposed by Figure 34 (see p. 285) as a way of highlighting cultural, social and political barriers to the uptake of ED physiotherapy.

The physiotherapy profession will be well served to consult other emergency department stakeholders as part of an ongoing evaluation of ED physiotherapy service delivery, in conjunction with building an empirical research evidence base. In the quest for national acceptance, support and promotion of ED physiotherapy, collaboration and an evidence-based foundation of practice are pivotal. Currently, the researcher is supervising multiple research projects, combining qualitative and quantitative methodologies, exploring national perspectives on ED physiotherapy clinical roles and responsibilities, the introduction and application of extended scope practices by physiotherapists in the emergency department, and the influence of the position on patient volumes, through-put and health outcomes.

The aim of this thesis was to explore multiple stakeholder perceptions of ED physiotherapy practice, thus filling a niche in the research around ED physiotherapy. By combining different perspectives across two cases with existing literature findings, the researcher was able to show that Australian ED physiotherapy extends beyond the scope of a first-contact musculoskeletal practice only, and can offer a range of diagnostic and management options commensurate with the breadth of conditions treated at an emergency department. Physiotherapy is perceived to be a credible addition to the emergency environment, having already established a solid foundation of trust and respect among other stakeholders. However, to overcome barriers pertaining to physiotherapy being an extended, autonomous practice in the future, the profession must persist in proving it provides positive clinical benefits to patients as well as making an important contribution to the efficiency of emergency department care. Links to the community health sector will likely better improve the quality of patients' recovery in the longer term. This thesis represents a critical step in

showing how physiotherapy can have a valuable influence over the quality of emergency department care in Australia.

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Appendix A Ethics Committee Approval Letters



JAMES COOK UNIVERSITY

Townsville campus
Townsville QLD 4811 AUSTRALIA
Telephone: (07) 4781 4111 Web: www.jcu.edu.au
Ethics Review Committee
(Human Ethics Committee)
Telephone: (07) 4781 4342
Facsimile: (07) 4781 5521
E-mail: Tina.Langford@jcu.edu.au

MEMO

To: Sophie Anaf

From: Tina Langford

At: School of Public Health, Tropical Medicine & Rehabilitation Sciences

Date: 4 July 2006

Subject: Condition of Approval Notice

Ethics Application:

**Exploring stakeholder perceptions to inform models of Emergency
Department Physiotherapy in regional Australian settings: a two-region
study**

Dear Sophie,

At the meeting of the Human Ethics Committee held on the 28 Jun 2006 it was resolved that approval for your project be granted subject to the following provisions:

- *Please provide a copy of the ethics approval notices from the Townsville Hospital and John Hunter Hospital ethics committees. (Could you also please email the Ethics Officer a copy of the ethics application that was submitted to each of these committees.)*

The requested amendments should be forwarded to the Ethics Officer, Research Office.

Please note: project may NOT commence until final ethics approval has been released and a James Cook University ethics approval number assigned to the project.

If you have any questions concerning the Committee's requests please do not hesitate to contact me.

Thank you.

Tina Langford
Ethics Officer
Research Office

CAIRNS HEALTH SERVICE DISTRICT

Enquires: Ethics Committee
Direct Telephone: (07) 40 506 525
Direct Facsimile: (07) 40 506 696

Our Reference: JN/hp 16:11
Your Reference: #447

Miss Sophie Anaf
PhD candidate
Email: sophie.anaf@jcu.edu.au

Dear Sophie,

Re: Exploring stakeholder perceptions to inform models of emergency department physiotherapy in Australian settings: a two case study.

I wish to advise that the Chairperson and Ethics sub committee have reviewed and now formally approved the above study, the required amendments have now been met.

The Cairns Base Hospital Ethics Committee is both duly constituted and operates in accordance with the National Statement on Ethical Conduct in Research Involving Humans and Supplementary Notes, (1999).

During the conduct of the study you are required to adhere to the following conditions:

- The National Statement on Ethical Conduct in Research Involving Humans requires a Human Research Ethics Committee to nominate a person to whom complaints from participants, researchers, or other interested person can be directed. The Cairns Base Hospital Ethics Committee has nominated The Chairperson Dr Jill Newland (Phone: 07- 40506525). This information must be included in the Information Sheet provided to participants.
- The reference number should be quoted on all correspondence relating to the application.
- You are required to provide a report on the outcome of the study at the completion of the study or annually if the study continues for more than 12 months.
- You must immediately report to the CBHREC any serious or unexpected adverse effects on participants, and any unforeseen events that might affect continued ethical acceptability of the project. In addition, the Investigator must provide a summary of the adverse events, in the
- specified format, including a comment as to suspected casualty and whether changes are required to the Patient Information and Consent Form.

- If any subsequent change/amendment is made to the protocol it will be necessary for you to obtain approval from the Cairns Base Ethics Committee. The amended documents must be accompanied by the letter, signed by the Principal Investigator, providing a brief description of the changes, the rationale for them and their implications for the ongoing conduct of the study. All amended documents must contain revised version numbers, version dates and page numbers. Changes must be highlighted using Microsoft Word “Track Changes” or similar.
- Copies of all publications resulting from the study should be submitted to the Cairns Base Hospital Ethics Committee. Please also ensure that a copy is also forwarded to the Cairns Base Hospital Medical Library.

Your reference number for the above application for all future correspondence is **447**.

Yours sincerely

Helen Pharoah on behalf of
Dr Jill Newland
Chairperson
Cairns Base Hospital Ethics Committee

17th January, 2007



Human Research Ethics Committee

Research Ethics Unit
Level 8 HSB – Room 8322
Austin Hospital

TO: **A/Prof Lorraine Sheppard**
School of Health Sciences
University of South Australia

PROJECT: Exploring stakeholder perceptions to inform models of emergency department physiotherapy in Australian settings: a two case study

PROTOCOL NO:
PROJECT NO: H2007/02737

FROM: **Jill Davis Research Ethics Unit Manager**

DATE: 28 January 2007

RE: **Protocol Survey**
Participant Information and Consent Form (survey) version 2 dated 31 January 2007
Participant Information and Consent Form (interview) version 2 dated 31 January 2007
Participant Information and Consent Form (questionnaire) version 2 dated 31 January 2007

Approval Period: **28 January 2007 – 28 January 2010**

Agenda Item: 6.1 (January 2007)

Further to my letter dated 30 January 2007 concerning the above detailed project, I am writing to acknowledge that your response to the issues raised by the Human Research Ethics Committee at their meeting on 18 January 2007 is satisfactory. This project now has full ethical approval for a period of three years from the date of this letter.

It is now your responsibility to ensure that all people associated with this particular project are made aware of what has actually been approved. Any changes to the original application will require a submission of a protocol amendment to the Committee for consideration as this approval only relates to the original application as detailed above.

The Committee has requested me to make arrangement for progress reports to be submitted by the Investigator to the Committee at the end of twelve (12) months, or sooner if the project is completed within twelve (12) months. Should your study not commence twelve (12) months from the date of this letter this approval will lapse. A resubmission to the Human Research Ethics Committee would then be necessary before you could commence.

The Committee wishes to be informed immediately of any untoward effects experienced by any participant in the trial where those effects in degree or nature were not anticipated by the researchers.

DETAILS OF ETHICS COMMITTEE:

It is the policy of the Committee not to release personal details of its members. However I can confirm that at the meeting at which the above project was considered, the Committee fulfilled the requirements of the National Health and Medical Research Council in that it contained men and women encompassing different age groups and included people in the following categories:

| | |
|------------------------------------|------------------------------------|
| Chairperson | Additional members include: |
| Lay Man | • Nursing Administrator |
| Lay Woman | • Surgeon |
| Minister of Religion | • Pharmacologist |
| Lawyer | • Pharmacist |
| Person with Research Experience | |
| Person with Counselling Experience | |

I confirm that the Principal Investigator or Co-Investigators were not involved in the approval of this project. I further confirm that all relevant documentation relating to this study is kept on the premises of Austin Health for more than three years.

The Committee is organised and operates according to the Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95), annotated with TGA comments; and The National Statement on Ethical Conduct in Research Involving Humans (NHMRC The National Statement) and the applicable laws and regulations; and the Health Privacy Principles in The Health Records Act 2001. This hospital is registered under the United States DHHS Federal Wide Assurance number 00001363

Queensland Health**TOWNSVILLE HEALTH SERVICE DISTRICT**

Enquire to: Carolyn Schmidt – Medical Administration
Telephone: 07 4796 1140
Facsimile: 07 4796 1051
Email: carolyn_schmidt@health.qld.gov.au
File Number: Ethics – 41/06
Our Reference: dsa/ethics/protocol/2006/4106_2

8 November 2006

Ms Sophie Anaf
Discipline of Physiotherapy
School of Public Health
Tropical Medicine and Exercise and
Rehabilitation Science
James Cook University
TOWNSVILLE Q 4811

Dear Sophie

PROTOCOL NUMBER: 41/06
PROTOCOL NAME: Exploring stakeholder perceptions to inform models of
emergency department physiotherapy in regional
Australian settings: a two-region study

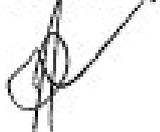
Thank you for letter dated 23 October 2006 providing a response to the Committee's letter dated 17 August 2006.

On behalf of the Townsville Health Service District Human Research Ethics Committee, I am satisfied that the researcher has responded to all the queries in the Committee's letter and give ethical approval for the commencement of the study.

I note that you will provide the Committee with the interview schedule and questionnaire once developed into its final version, anticipated to be February 2007.

If you have any queries, please contact me on ☎ (07) 4796 1140.

Yours sincerely



Dr Andrew Johnson
Chairperson
Townsville Health Service District
Human Research Ethics Committee

Appendix B Examples of Information Sheets and Consent Forms

Emergency Department Patients



AN INVITATION TO BE INVOLVED IN A SURVEY BY JAMES COOK UNIVERSITY

“Exploring stakeholder perceptions to inform models of Emergency Department Physiotherapy in Australian settings: a two-case study.”

Co-investigator

Sophie Anaf (PhD candidate)
Ph: (07) 4781 6303
Email: Sophie.Anaf@jcu.edu.au

Principal investigator

Professor Lorraine Sheppard
Ph: (08) 8302 2424
Email: Lorraine.Sheppard@jcu.edu.au

We would like to invite you to be involved in PhD research being conducted by James Cook University’s School of Physiotherapy. This research is looking at how physiotherapy in the Emergency Department could be best developed to meet the needs of people living in regional Australia. We consider your opinion as a member of the public who is using the Emergency Department to be valuable to the research, which is why we are offering you the opportunity to be involved in this study.

We are surveying people who are in the Emergency Department to see what they think about the services offered by the department. We are also interested in your opinion about physiotherapy. We intend to use the responses from the survey to help develop a better understanding of what the public expects the Emergency Department to provide, as well as what the public believes physiotherapy services involve.

If you are happy to be involved in this research, you are required to complete two forms. The first is a consent form that you are happy to be involved and have read this information sheet. The second form is the survey. It has been designed for people waiting in the Emergency Department for treatment. The survey should take approximately 5 minutes to complete, and we would greatly appreciate it if you could complete it as honestly as possible and answer all questions fully. No further participation is required once you have handed back the survey to the investigator, and all surveys will be placed in a sealed box straight away.

Your survey responses to the study will be strictly confidential. No identifying features (names or contact details) will be published in any future written thesis or research publications. All questionnaires and consent forms will be stored in a locked cabinet at James Cook University for a minimum of 5 years, in accordance with ethics requirements. Only the researchers involved in the study will have access to this information. Please be aware that you are under no obligation to be involved in this research, and you may withdraw your involvement in the study at any time.

This study has been reviewed and approved by The Townsville Hospital Health Service District Human Research Ethics Committee, and the James Cook University Human Ethics Committee. Should you wish to discuss the study with someone not directly involved, in particular in relation to matters concerning policies, information about the conduct of the

study or your rights as a participant, or should you wish to make an independent complaint, you can contact the **Coordinator or Chairperson, Human Research Ethics Committee** on ph: **(07) 4796 1003**. Any concerns regarding the ethical validity of the research may also be directed to the Ethics Officer:

Tina Langford, Ethics Officer, Research Office, James Cook University, Townsville QLD 4811.

Ph: (07) 4781 5521 Email: Tina.Langford@jcu.edu.au

Thank you for your participation.

Sophie Anaf (Co-investigator).



AN INVITATION TO BE INVOLVED IN RESEARCH BY JAMES COOK UNIVERSITY

“Exploring stakeholder perceptions to inform models of Emergency Department Physiotherapy in Australian settings: a two-case study.”

Co-investigator

Sophie Anaf (PhD candidate)
Ph: (07) 4781 6303
Email: Sophie.Anaf@jcu.edu.au

Principal investigator

Professor Lorraine Sheppard
Ph: (08) 8302 2424
Email: Lorraine.Sheppard@jcu.edu.au

James Cook University School of Physiotherapy is currently developing doctoral (PhD) research exploring the potential value of emergency department-based physiotherapy services in Australia. This research will explore how the position can contribute to the emergency department structure of Australian hospitals based on the opinions of key health professional stakeholders. The aim of the research is to explore how different health professionals in the hospital and community setting think emergency physiotherapy contributes (or could contribute) to the effectiveness of patient care and efficiency of the department.

This research is being conducted by PhD candidate Sophie Anaf (co-investigator) who is based full-time at the Townsville Campus of James Cook University. The principal supervisor and investigator is Professor Lorraine Sheppard, and associate supervisor is Professor Michele Clark.

We would like to invite you to be involved in this research. You have been provided with a specially-designed questionnaire that seeks to explore your opinions of emergency department physiotherapy as a health professional in the community. The questionnaire is designed to be free-form, so that you may document your responses more fully. It should take approximately 15 minutes to complete. We seek your personal opinion related to the research topic (as guided by the questionnaire) and no information of an intimate personal nature will be required.

If you are willing to be involved in the research, you will be required to sign a consent form which acknowledges that you have been provided with an explanation of the research, and agree to its conduct. Please complete the questionnaire as openly as possible, and **post it back with the consent form to the research team in the reply-paid envelope provided**. If we have not received your consent form and questionnaire by 29 June 2007 we will assume that you do not wish to participate in the research.

The researchers consider confidentiality to be extremely important. Any comments made which are used in the research will be de-identified by being assigned a generic code (e.g. GP#1, CN#1, PT#1). The name and region of your hospital/ town will be identified, however your personal details (beyond the generic code) will not. Your involvement with the research will not be discussed with any other staff members or participants. Your participation is voluntary, and *you have the opportunity to withdraw your involvement from the research at any point*. Any data collected will be securely stored in an office at James Cook University for a minimum of 7 years, with access only permitted for the research team.

This study has been reviewed and approved by The Townsville Hospital Health Service District Human Research Ethics Committee, and the James Cook University Human Ethics Committee. Should you wish to discuss the study with someone not directly involved, in particular in relation to matters concerning policies, information about the conduct of the study or your rights as a participant, or should you wish to make an independent complaint, you can contact the **Coordinator or Chairperson, Human Research Ethics Committee** on ph: **(07) 4796 1003**. Any concerns regarding the ethical validity of the research may also be directed to the Ethics Officer:

Tina Langford, Ethics Officer, Research Office, James Cook University, Townsville QLD 4811. Ph: (07) 4781 5521 Email: Tina.Langford@jcu.edu.au

Thank you for your participation

Sophie Anaf (co-investigator).
investigator)

Professor Lorraine Sheppard (principal
investigator)



“Exploring stakeholder perceptions to inform models of Emergency Department Physiotherapy in Australian settings: a two-case study.”

Co-investigator

Sophie Anaf (PhD candidate)
Ph: (07) 4781 6303
Email: Sophie.Anaf@jcu.eu.au

Principal investigator

Professor Lorraine Sheppard
Ph: (08) 8302 2424
Email: Lorraine.Sheppard@jcu.edu.au

James Cook University School of Physiotherapy is currently developing doctoral (PhD) research exploring the potential value of emergency department-based physiotherapy services in Australia. This research will explore how the position can contribute to the emergency department structure of Australian hospitals based on the opinions of key health professional stakeholders. The aim of the research is to explore how different health professionals working in emergency departments think emergency physiotherapy contributes (or could contribute) to the effectiveness of patient care and efficiency of the department.

This research is being conducted by PhD candidate Sophie Anaf (co-investigator) who is based full-time at the Townsville Campus of James Cook University. The principal supervisor and investigator is Professor Lorraine Sheppard, and associate supervisor is Professor Michele Clark.

We would like to invite you to be involved in this research. The design is a one-to-one interview conducted by the co-investigator exploring your opinions about the emergency department, and in particular the idea of physiotherapy being involved in the emergency department. The interview is anticipated to last up to 60 minutes, and is a once-off event. The co-investigator will be in personal contact with you, should you offer your consent, to organise a time to conduct the interview at your hospital. Arrangements as to the location of the interview will be negotiated with you once a mutually convenient time has been established.

With your consent, interviews will be recorded on Dictaphone for the researchers to have a record of the discussion for research purposes. These will eventually be transcribed into written documents. We seek your personal opinion related to your professional involvement with the emergency department, and no information of an intimate personal nature will be required. We will provide a copy of your transcript to you for you to check the accuracy and intentions of your responses, and you have the opportunity to revise or retract any information you provide. If you are willing to be involved in the research, you will be required to sign a consent form which acknowledges that you have been provided with an explanation of the research, and agree to its conduct.

The researchers consider confidentiality to be extremely important. Any comments made which are used in the research will be de-identified by being assigned a generic code (e.g. AH doctor #1). The name and region of your hospital will be identified, however your personal details within the hospital (beyond the generic code) will not. Your involvement with the research will not be discussed with any other staff members or participants. Your participation is voluntary, and *you have the opportunity to withdraw your involvement from*

the research at any point. Any data collected will be securely stored in an office at James Cook University for a minimum of 5 years, with access only permitted for the research team.

This study has been reviewed and approved by The Townsville Hospital Health Service District Human Research Ethics Committee, and the James Cook University Human Ethics Committee. Should you wish to discuss the study with someone not directly involved, in particular in relation to matters concerning policies, information about the conduct of the study or your rights as a participant, or should you wish to make an independent complaint, you can contact the **Coordinator or Chairperson, Human Research Ethics Committee** on ph: **(07) 4796 1003**. Any concerns regarding the ethical validity of the research may also be directed to the Ethics Officer:

Tina Langford, Ethics Officer, Research Office, James Cook University, Townsville QLD 4811.

Ph: (07) 4781 5521 Email: Tina.Langford@jcu.edu.au

Thank you for your participation

Sophie Anaf (co-investigator).
investigator)

Professor Lorraine Sheppard (principal
investigator)

Consent Forms

INFORMED CONSENT FORM

| | |
|-------------------------------|---|
| PRINCIPAL INVESTIGATOR | Ms. Sophie Anaf |
| PROJECT TITLE | Exploring stakeholder perceptions to inform models of Emergency Department Physiotherapy in Australian settings: a two-case study |
| SCHOOL | Physiotherapy School (School of Public Health, Tropical Medicine and Rehabilitation Science). |
| CONTACT DETAILS | <i>Sophie Anaf</i> PhD Candidate Physiotherapy School James Cook University, Townsville QLD 4811 Ph: (07) 4781 6303 Fax: (07) 4781 6868 Email: Sophie.Anaf@jcu.edu.au |

This project is looking at how different hospital staff members believe Emergency Department Physiotherapy will contribute to the running of the Emergency Department and the management of patients. This project is exploring your thoughts and concerns about having physiotherapy involved in the Emergency Department, regardless as to whether your hospital has an emergency-based physiotherapy service or not.

It is anticipated that your participation in this study will help the research team develop models and guidelines about implementing this service to regional Australian hospitals. Recommendations will be made as to the best way to introduce Emergency Department Physiotherapy, considering the opinions of the main health professions involved in emergency medicine. All information will be included in a PhD thesis and associated publications.

Your permission is sought to conduct the following:

- A one-to-one interview with the principal investigator to discuss your thoughts about Emergency Department Physiotherapy. It is expected to last 30-60 minutes and will be conducted at your hospital.
- Recording of the interview on audiotape for the researchers to transcribe and analyse at a later date.
- Publication of your interview comments using de-identified information. Details of your involvement in the study will be confidential. The name of the hospital and its geographic location will be disclosed for research purposes. Any of your comments made in the interview used in publication will be coded to de-identify you (e.g. nurse#1).
- (for EDPT only) Authorisation to code your role as being the emergency physiotherapist of the hospital. Your identity and other personal identifying information will not be disclosed for any publications.*

Your involvement in this research will not be discussed with any other staff member once you agree to participate in the research. You have the right to withdraw your involvement from this study at any point. You may direct any queries about this research project to Sophie Anaf, at the details provided above.

I understand that any information I give will be kept strictly confidential and that no names will be used to identify me with this study without my approval.

| | |
|-------------------------------|--------------|
| Name: <i>(printed)</i> | |
| Signature: | Date: |

INFORMED CONSENT FORM

| | |
|-------------------------------|--|
| PRINCIPAL INVESTIGATOR | Ms. Sophie Anaf |
| PROJECT TITLE: | Exploring stakeholder perceptions to inform models of Emergency Department Physiotherapy in Australian settings: a two-case study |
| SCHOOL | Physiotherapy School (School of Public Health, Tropical Medicine and Rehabilitation Science). |
| CONTACT DETAILS | <p><i>Sophie Anaf</i> PhD Candidate Physiotherapy School James Cook University, Townsville QLD 4811 Ph: (07) 4781 6303 Fax: (07) 4781 6868 Email: Sophie.Anaf@jcu.edu.au</p> |

This project is looking at how different community health professionals, such as doctors, nurses and physiotherapists, believe Emergency Department Physiotherapy will contribute to the running of the Emergency Department and the management of patients. This project is exploring your thoughts about having physiotherapy involved in your local Emergency Department, regardless as to whether the hospital actually has an emergency-based physiotherapy service or not. We are particularly interested as to your views about the impact this may have on the community management and referral of patients.

It is anticipated that your participation in this study will help the research team develop models and guidelines about implementing this service to Australian hospitals. Recommendations will be made as to the best way to introduce Emergency Department Physiotherapy, considering the opinions of some of the main health professions involved in emergency and community health care. All information will be included in a PhD thesis and associated publications.

Your permission is sought to conduct the following:

- Completing the questionnaire provided as open and honestly as possible. It is expected that the questionnaire will take approximately 15 to 20 minutes to complete.
- Publishing results from the questionnaires for a PhD thesis and its associated publications.
- Please note that no identifying information (names, addresses, contact details) will be disclosed at any point. All information you have provided, if necessary, will be de-identified with a code (e.g. Townsville GP#1) to maintain confidentiality.

Your involvement in this research will not be discussed with any other individual outside the research team once you agree to participate in the research. You have the right to withdraw your involvement from this study at any point. You may direct any queries about this research project to Sophie Anaf, at the details provided above.

Please ensure that you return this consent form with your completed questionnaire to Sophie in the reply paid envelope provided, should you wish to be involved in the study.

The aims of this study have been clearly explained to me and I understand what is wanted of me. I have read the accompanying information sheet. I know that taking part in this study is voluntary and I am aware that I can stop taking part in it at any time and may refuse to answer any questions.

I understand that any information I give will be kept strictly confidential and that no names will be used to identify me with this study without my approval.

| | |
|-------------------------------|--------------|
| Name: <i>(printed)</i> | |
| Signature: | Date: |

INFORMED CONSENT FORM

| | |
|-------------------------------|--|
| PRINCIPAL INVESTIGATOR | Ms. Sophie Anaf |
| PROJECT TITLE: | Exploring stakeholder perceptions to inform models of Emergency Department Physiotherapy in Australian settings: a two-case study |
| SCHOOL | Physiotherapy School (School of Public Health, Tropical Medicine and Rehabilitation Science). |
| CONTACT DETAILS | <p><i>Sophie Anaf</i> PhD Candidate Physiotherapy School James Cook University, Townsville QLD 4811 Ph: (07) 4781 6303 Fax: (07) 4781 6868 Email: Sophie.Anaf@jcu.edu.au</p> |

This project is looking at how members of the public believe Emergency Department Physiotherapy will contribute to the running of the local Emergency Department. This project is exploring your thoughts about having physiotherapy involved in your local Emergency Department, regardless as to whether the hospital actually has an emergency-based physiotherapy service or not. We are particularly interested as to your understanding of the role, and how you think physiotherapy might change the way emergency departments work.

It is anticipated that your contribution to this study will help the research team develop models and guidelines about implementing this service to Australian hospitals. Recommendations will be made as to the best way to introduce Emergency Department Physiotherapy, considering the opinions of some of the main health professions involved in emergency and community health care. All information will be included in a PhD thesis and associated publications.

Your permission is sought to conduct the following:

- Completing the questionnaire provided as open and honestly as possible. It is expected that the questionnaire will take approximately 5 to 10 minutes to complete.
- Publishing results from the questionnaires for a PhD thesis and its associated publications.
- Please note that no identifying information (names, addresses, contact details) will be disclosed at any point. All information you have provided, if necessary, will be de-identified with a code to maintain confidentiality.
- You acknowledge that you are 18 years of age or older.

Your involvement in this research will not be discussed with any other individual outside the research team once you agree to participate in the research. You have the right to withdraw your involvement from this study at any point. You may direct any queries about this research project to Sophie Anaf, at the details provided above.

The aims of this study have been clearly explained to me and I understand what is wanted of me. I have read the accompanying information sheet. I know that taking part in this study is voluntary and I am aware that I can stop taking part in it at any time and may refuse to answer any questions.

I understand that any information I give will be kept strictly confidential and that no names will be used to identify me with this study without my approval.

| | |
|-------------------------------|--------------|
| Name: <i>(printed)</i> | |
| Signature: | Date: |

Appendix C Emergency Patient Survey

1. Age _____ (years)
2. Gender Male Female
3. What is your occupation (paid or unpaid)?

4. Have you ever been to an emergency department before? Yes No
5. If 'yes', approximately how many times have you been in the last 5 years?
_____ (times)
6. Please list what you think should happen when you go to an emergency department (up to four responses):
 - i. _____
 - ii. _____
 - iii. _____
 - iv. _____
7. In your opinion, **how** could the emergency department be improved? (up to four responses)
 - i. _____
 - ii. _____
 - iii. _____
 - iv. _____
8. Have you ever seen a physiotherapist before? Yes No
9. In your opinion, **what** is the role of a physiotherapist generally? What jobs and tasks do they do?

10. Have you ever heard of physiotherapists working in an emergency department?
Yes No
11. In the emergency department, what sort of patients do you think a physiotherapist would see, and **why**?

12. **How** do you think a physiotherapist could make the care you receive in the emergency department better or worse?

13. **How** do you think physiotherapy in the emergency department will have helped someone to get back home, and **why**?

Appendix D Community Health Professional Questionnaire



Exploring stakeholder perceptions to inform models of emergency department physiotherapy in Australian settings: a two-case study

COMMUNITY HEALTH PROFESSIONAL QUESTIONNAIRE

INSTRUCTIONS

Thank you for completing this questionnaire as part of a Doctor of Philosophy (in Physiotherapy) conducted by Sophie Anaf of James Cook University, Townsville. This questionnaire should take approximately 20 - 30 minutes to complete, and is designed for community health professionals to complete. Please document all responses in the spaces provided under each question. If you require more space, please attach a separate piece of paper to the questionnaire and write the corresponding question number next to your response. **Please write out your responses in full and provide as much detail as possible for each answer.**

Please send your completed **questionnaire** and **consent form** to Sophie Anaf in the reply-paid enveloped provided.

1. Please tick your professional role:

- General Practitioner
- Physiotherapist
- Community-based nurse

2. Please tick your gender:

- Male
- Female

3. How long have you worked in your profession?

_____ (months or years)

4. How long have you worked as a health professional in a community setting?

_____ (months or years)

5. Please describe your professional role in the community commenting on:

a) *The types of clients / patients you manage*

b) *Your primary tasks and responsibilities as a health professional in the community*

6. Do you have any professional interactions with the emergency department (regular or occasional)? If yes, please describe and comment on this:

7. Describe the biggest pressures currently facing the emergency department in your region:

| <i>Pressures</i> | <i>Consequences</i> |
|------------------|---------------------|
| | |

8. How do these pressures affect your working practice (if at all)?

9. In your opinion, what may help the emergency department system to address these pressures?

10. Have you ever heard of **emergency department physiotherapy** before?

Yes

No

11. With regards to physiotherapy being used in the emergency department setting:

a) **What** do you believe are their current roles and responsibilities?

b) **Why** do you think physiotherapy is starting to be used by hospital emergency departments?

c) **How** do you think **emergency department physiotherapy** may influence the efficiency or effectiveness of the emergency department in your region?

d) **Who** do you think **emergency department physiotherapists** will closely collaborate with in the emergency department, and why?

12. With regards to emergency department physiotherapy's potential link to the community:

a) **To what extent** will **emergency department physiotherapists** collaborate with health professionals in the community (including your profession), and **why**?

b) **How** could **emergency department physiotherapists'** collaboration with health professionals in the community influence the emergency department system?

13) Do you have any further comments about **emergency department physiotherapy**?

Thank you for your time and comments

Appendix E Emergency Department Staff Interview Themes

| Theme explored | Interview questions |
|---|--|
| Roles in the ED system | <ul style="list-style-type: none"> • Please tell me what you do. • How long have you worked in this role? • What is different / unique about your role from other health professions in the ED? |
| Understanding of the ED system | <ul style="list-style-type: none"> • What is the ED system designed to offer? • How do you think this is different from what it actually is? • What are the biggest pressures facing your ED? • What do you think, realistically, it will take to improve the ED system overall? • Please tell me about what may be special or unique about your ED and the services it provides in the context of the surrounding environment. |
| Stakeholder interpretation of ED physiotherapy | <ul style="list-style-type: none"> • Please describe for me what you believe the role of physiotherapy is in the ED. • How do you think physiotherapy in the ED is different from physiotherapy in general? What skills or attributes are needed in the ED? • What does your role have in common with that of ED physiotherapy? • What are the most important roles ED physiotherapy should have in your department? |
| EDPT contribution to service delivery | <ul style="list-style-type: none"> • On principle, do you agree or disagree with the idea of ED physiotherapy, and why? • How do you think the inclusion of ED physiotherapy into your department will impact on the service delivery problems you have identified? • How could ED physiotherapy improve the ED system? • How could ED physiotherapy hinder the ED system? • In an ideal situation, how would you choose to use ED physiotherapy to improve the ED, and from where do you think the biggest benefits would arise? • So what sort of model would you like to see of ED physiotherapy – how would it be best integrated? <i>How could it work for this region??</i> • Do you think that adding physiotherapy to the mix will have any bearing on the jobs performed by other professions, like yours? |
| Collaboration in the ED system | <ul style="list-style-type: none"> • What do you think are the dominant, or most important, partnerships in the ED so that it runs well? • Quote from Berwick (1996): <i>We are used to sub-optimising our local profession or department. Nurses improve nursing; doctors improve doctoring. But part by part improvement will not in general achieve the improvement of systems as a</i> |

whole. Indeed, collaboration may easily degenerate into the more familiar job of making one's own part better at the expense of the whole.

How true do you think this is about the ED system?

- How do you think including ED physiotherapy changes or influences the dominant ED partnerships?
- Who do you think ED physiotherapy will be most strongly affiliated with in the ED system, and why?

Implications for primary care

- To what extent do you see ED physiotherapy having a relationship with other professions outside the ED?
- How would ED physio links with community health professions such as GPs and nursing influence the ED system?
- Do you have any suggestions on how ED physiotherapy can positively influence the community sector?

Reflections on patient responses

Can you please offer your opinion as to why patients see these as the important issues, and whether you think these are valid or not:

1. Comfort, support and encouragement
 2. Musculoskeletal experts
 3. Education and communication
-