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
Statement of Access

I, Sophie Anaf, author of this work, understand that James Cook University will make this thesis available for use within the University Library and, via the Australian Digital Theses network, for use elsewhere.

I understand that, as an unpublished work, a thesis has significant protection under the Copyright Act and;

I do not wish to place any further restriction on access to this work.

____________________________________  ______________________________
Signature                                      Date
Statement of Sources

Declaration

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

__________________________________________  ____________________________
Signature                                      Date

Declaration on Ethics

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).

__________________________________________  ____________________________
Signature                                      Date
Statement on the contribution of others

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.
Publications and Presentations


Under review/ development


Table of Contents

STATEMENT OF ACCESS ........................................................................................................ I
STATEMENT OF SOURCES .................................................................................................... II
STATEMENT ON THE CONTRIBUTION OF OTHERS .................................................. III
ACKNOWLEDGEMENTS ......................................................................................................... IV
ABSTRACT............................................................................................................................. V
PUBLICATIONS AND PRESENTATIONS .......................................................................... VII
LIST OF TABLES .................................................................................................................. XV
LIST OF FIGURES ............................................................................................................... XVI
GLOSSARY ............................................................................................................................ XVII
ABBREVIATIONS ................................................................................................................ XVIII

1 STUDY SYNOPSIS...........................................................................................................1
1.1 RESEARCH RATIONALE .............................................................................................. 1
1.2 RESEARCH AIMS, OBJECTIVE AND INTENDED OUTCOME .................................... 3
1.3 RESEARCH PROCESS .................................................................................................. 4
  1.3.1 Qualitative writing style ...................................................................................... 6
1.4 FINDINGS ..................................................................................................................... 7
  1.4.1 Emergency department patients’ perceptions ..................................................... 7
  1.4.2 Community health professionals’ perceptions ................................................... 7
  1.4.3 Emergency department staff’s perceptions ........................................................ 8
  1.4.4 Conceptual models of emergency department physiotherapy ......................... 8
1.5 FUTURE RESEARCH DIRECTIONS ....................................................................... 9

2 LITERATURE REVIEW ................................................................................................. 11
2.1 INTRODUCTION ........................................................................................................ 11
2.2 SOCIO-POLITICAL FRAMEWORK .......................................................................... 12
  2.2.1 Influences on the Physiotherapy profession ..................................................... 12
  2.2.2 General literature review search strategy ......................................................... 15
    2.2.2.1 First-contact practice in physiotherapy ...................................................... 17
    2.2.2.2 Specialisation in physiotherapy ................................................................. 20
    2.2.2.3 The advent of Casemix-style systems ....................................................... 23
    2.2.2.4 Conclusion ............................................................................................... 26
  2.2.3 Australian health reform agendas ....................................................................... 26
    2.2.3.1 Health workforce redesign ....................................................................... 27
    2.2.3.2 Job innovation ......................................................................................... 28

Table of contents     viii
# Table of contents

2.2.4 Niche within the evidence base .................................................................31

2.3 EMERGENCY DEPARTMENT SERVICE DELIVERY ISSUES ..........................31

2.3.1 Access block .................................................................................................31

2.3.2 Non-urgent users of emergency services ....................................................36

2.3.3 Niche within the evidence base .................................................................40

2.4 STAKEHOLDERS IN THE EMERGENCY DEPARTMENT ..............................41

2.4.1 Patients as emergency department stakeholders ........................................41

2.4.2 Community health professionals as emergency department stakeholders ....43

2.4.3 Emergency staff as emergency department stakeholders ............................45

2.4.4 Collaboration in the emergency department .................................................47

2.5 DESCRIBING EMERGENCY DEPARTMENT PHYSIOTHERAPY: CURRENT EVIDENCE.....49

2.5.1 Methods .......................................................................................................51

2.5.1.1 Identification of the literature .................................................................51

2.5.1.2 Inclusion criteria ......................................................................................52

2.5.1.3 Critical appraisal ......................................................................................53

2.5.1.4 Review of the literature ..........................................................................54

2.5.2 Findings ........................................................................................................55

2.5.2.1 The context of emergency department physiotherapy practice ...............56

2.5.2.2 Emergency department physiotherapists managing patient populations ..57

2.5.2.3 Clinical conditions managed by emergency department physiotherapists .................................................................58

2.5.2.4 Emergency department physiotherapy influencing service delivery and quality .................................................................59

2.5.2.5 Methodological quality ..........................................................................61

2.5.3 Discussion ....................................................................................................62

2.5.4 Limitations of research ..............................................................................63

2.5.5 Research aims and objectives ....................................................................63

3 THEORETICAL FRAMEWORK ........................................................................65

3.1 INTRODUCTION ..........................................................................................65

3.2 THE INTERPRETIVE FRAMEWORK .........................................................65

3.3 SYSTEMS THEORY ..................................................................................70

3.3.1 Origins of systems theory ...........................................................................70

3.3.2 Systems, metaphors and relationships .......................................................75

3.3.3 Types of systems .........................................................................................79

3.3.4 Principles of ‘Soft’ Systems .......................................................................81

3.3.5 Conclusion ..................................................................................................84

3.4 CASE STUDY THEORY .............................................................................85
5.2.2 Synopsis of case observations ................................................................. 127
5.2.3 System reflections .................................................................................. 129
5.3 THE AUSTIN HOSPITAL EMERGENCY DEPARTMENT .............................. 131
5.3.1 Background ............................................................................................ 131
5.3.2 Synopsis of case observations ................................................................. 133
5.3.3 System reflections .................................................................................. 136
5.4 CONCLUSION ............................................................................................ 138

6 EMERGENCY DEPARTMENT PATIENT PERCEPTIONS ...................... 139
6.1 INTRODUCTION .......................................................................................... 139
6.2 PARTICIPANT CHARACTERISTICS ............................................................... 139
6.3 EMERGENCY SYSTEM EXPECTATIONS ...................................................... 141
6.3.1 A system of prioritisation and waiting .................................................... 141
6.3.2 Interacting with multiple health professionals ........................................ 142
6.3.3 Communication’s influence on care ........................................................ 144
6.3.4 Physical structure ................................................................................... 146
6.3.5 “I wouldn’t have the temerity to even comment” – satisfaction with service quality .......................................................... 147

6.4 PERCEPTIONS OF PHYSIOTHERAPY AND EMERGENCY DEPARTMENT PHYSIOTHERAPY ............................................................... 148
6.4.1 General features of physiotherapy .......................................................... 148
6.4.1.1 Hands-on contact ................................................................................ 149
6.4.1.2 Exercise therapy ................................................................................ 149
6.4.1.3 Comfort and support ......................................................................... 150
6.4.1.4 A process of educating and communicating ...................................... 151
6.4.2 Common practice: transferring physiotherapy into the emergency department .......................................................... 152
6.4.2.1 Sports injury management ................................................................. 152
6.4.2.2 Musculoskeletal management ............................................................ 154
6.4.2.3 Rehabilitation and mobility ............................................................... 155
6.4.2.4 Pain management ............................................................................ 156
6.4.2.5 Respiratory support and management ............................................. 157
6.4.2.6 Elderly care and falls interventions ................................................ 158
6.4.3 Responsibilities specific to emergency department physiotherapy .......... 158
6.4.3.1 Orthopaedic intervention ................................................................. 159
6.4.3.2 Care for accident victims ................................................................. 159

6.5 EMERGENCY DEPARTMENT PHYSIOTHERAPY’S INFLUENCE ON SERVICE DELIVERY AND QUALITY OF CARE .............................................. 160
6.5.1 Improving patient recovery ................................................................. 161
6.5.2 Peace of mind and reassurance ................................................................. 163
6.5.3 Enhancing professional role delineation .................................................. 164
6.5.4 Improved clinical knowledge .................................................................... 165
6.5.5 Improved information and advice ............................................................ 167
6.5.6 Improved departmental efficiency and early intervention ....................... 168
6.5.7 Movement and exercise ............................................................................ 169
6.5.8 Maintaining community status ............................................................... 170
6.5.9 Unsure of the service delivery benefit ..................................................... 170

6.6 DISCUSSION ............................................................................................... 171
6.6.1 Meeting expectations ............................................................................... 173
6.6.2 Integrating physiotherapy into the emergency department ..................... 175
6.6.3 Changing the face of service quality ....................................................... 176
6.6.4 Perspectives on ‘the system’ ................................................................... 177

6.7 CONCLUSION ............................................................................................... 179

7 COMMUNITY HEALTH PROFESSIONALS’ PERCEPTIONS .................... 180
7.1 INTRODUCTION ........................................................................................... 180
7.2 PARTICIPANT CHARACTERISTICS .............................................................. 180
7.3 EMERGENCY SYSTEM CHALLENGES ...................................................... 181
7.3.1 Intrinsic emergency department problems ............................................. 181
7.3.2 Emergency department problems influencing community care ............. 185
7.4 PERCEPTIONS OF EMERGENCY DEPARTMENT PHYSIOTHERAPY ROLES .. 190
7.4.1 Mobility and gait aids ............................................................................. 190
7.4.2 Musculoskeletal management ................................................................. 192
7.4.3 Respiratory conditions ........................................................................... 193
7.4.4 Education and discharge coordination .................................................. 194
7.4.5 No viable role ......................................................................................... 194
7.5 QUALITIES OF EMERGENCY DEPARTMENT PHYSIOTHERAPISTS ....... 195
7.5.1 Client-centred care ................................................................................. 195
7.5.2 Streamlining and prioritising care ......................................................... 197
7.5.3 Advanced clinical standards ................................................................. 198
7.5.4 Departmental and clinical efficiency ..................................................... 200
7.6 RELATIONSHIPS OF EMERGENCY DEPARTMENT PHYSIOTHERAPY TO THE COMMUNITY ................................................................. 201
7.6.1 Professional relationships .................................................................... 201
7.6.2 Linking emergency department physiotherapy to the community ........... 202
7.7 DISCUSSION ............................................................................................... 204
7.7.1 Negotiating the emergency system ....................................................... 205
7.7.2 Physiotherapy adding dimensions to care................................. 206
7.7.3 Building relationships and defining roles................................. 208
7.7.4 Perspectives on ‘the system’ .................................................. 210
7.8 CONCLUSION............................................................................. 211

8 EMERGENCY DEPARTMENT STAFF PERCEPTIONS............... 213

8.1 INTRODUCTION........................................................................... 213
8.2 SETTING THE SCENE: EMERGENCY SYSTEM CHALLENGES ....... 213
8.3 CLINICAL COMPETENCIES AND SKILLS OF ED PHYSIOTHERAPISTS ......................................................... 221
  8.3.1 Musculoskeletal intervention.................................................. 221
  8.3.2 Generalist skill base.............................................................. 223
  8.3.3 Management of elderly clientele ............................................. 225
  8.3.4 Mobility assessment.............................................................. 227
  8.3.5 Respiratory management....................................................... 230
  8.3.6 Secondary clinical roles......................................................... 231
8.4 ENCOURAGING EVIDENCE-BASED PRACTICE AND STREAMLINING THE EMERGENCY DEPARTMENT ......................................................... 236
  8.4.1 Encouraging evidence-based practice...................................... 236
  8.4.2 Early intervention................................................................. 238
  8.4.3 Role of education in evidence-based practice ......................... 239
  8.4.4 Influence of efficient care in streamlining the ED ................... 241
  8.4.5 Holistic approach to care...................................................... 243
8.5 BALANCING PROFESSIONAL AUTONOMY WITH COLLABORATION ................................................................. 244
  8.5.1 Role delineation versus conflict.............................................. 248
8.6 PRESERVING THE PROFESSIONAL ‘SELF’ .................................... 252
  8.6.1 Physiotherapy in care coordination......................................... 252
  8.6.2 Personal qualities and knowledge.......................................... 253
  8.6.3 Professional advocacy......................................................... 255
  8.6.4 Physical environment........................................................... 257
  8.6.5 The future? Advancing physiotherapy’s scope of practice ...... 258
8.7 DISCUSSION............................................................................... 261
  8.7.1 Striking a balance in the system.............................................. 262
  8.7.2 Enhancing clinical care........................................................ 265
  8.7.3 Collaboration and professional identity .................................... 269
  8.7.4 Perspectives on ‘the system’ .................................................. 271
8.8 CONCLUSION............................................................................. 273
# Table of Contents

9 CONCEPTUAL MODEL DEVELOPMENT .......................................................275
  9.1 INTRODUCTION...............................................................................................275
  9.2 IN THE SPHERE OF SYSTEMS THEORY ..........................................................275
  9.3 PROFESSIONAL PRACTICE IN THE EMERGENCY DEPARTMENT ..................281
  9.4 IN THE SPHERE OF THE HEALTH SYSTEM ....................................................284
  9.5 CONCLUSION ................................................................................................287

10 CONCLUSIONS ......................................................................................................289
  10.1 INTRODUCTION...............................................................................................289
  10.2 STAKEHOLDER EXPECTATIONS AND INTERPRETATIONS OF PHYSIOTHERAPY’S ROLE IN THE EMERGENCY DEPARTMENT ....................................................291
  10.3 STAKEHOLDER PERCEPTIONS OF THE CONTRIBUTION PHYSIOTHERAPY MAKES TO THE EMERGENCY DEPARTMENT SYSTEM ....................................................294
  10.4 CONCEPTUAL MODELS OF PHYSIOTHERAPY’S INTEGRATION INTO THE EMERGENCY DEPARTMENT .................................................................297
  10.5 LIMITATIONS AND RECOMMENDATIONS ......................................................299
  10.6 FUTURE RESEARCH DIRECTIONS .................................................................301

REFERENCE LIST ...........................................................................................................304
APPENDIX A ETHICS COMMITTEE APPROVAL LETTERS ........................................333
APPENDIX B EXAMPLES OF INFORMATION SHEETS AND CONSENT FORMS .....................................................................................................................339
APPENDIX C EMERGENCY PATIENT SURVEY ......................................................348
APPENDIX D COMMUNITY HEALTH PROFESSIONAL QUESTIONNAIRE .......349
APPENDIX E EMERGENCY DEPARTMENT STAFF INTERVIEW THEMES ....353
List of Tables

Table 1: Definitions of physiotherapy ................................................................. 15
Table 2: Variations in physiotherapy terminology................................................ 22
Table 3: Australian studies examining LOS and access block in emergency departments ... 36
Table 4: Australasian Triage Scale (ATS) .............................................................. 37
Table 5: Critical appraisal scoring system ............................................................. 54
Table 6: Summary of reviewed articles ............................................................... 55
Table 7: Systemic metaphors .............................................................................. 77
Table 8: Matrix of participants and systems creating problem contexts .............. 80
Table 9: Data management table ....................................................................... 92
Table 10: Summary of research trustworthiness ................................................... 122
Table 11: Participant characteristics ................................................................. 140
Table 12: Case comparisons of patient thematic analysis .................................... 172
Table 13: Participant response rates ................................................................... 180
Table 14: Case comparison of community health professional thematic analysis .... 205
Table 15: Managing emergency department physiotherapy referrals .................... 217
Table 16: Key considerations when introducing ED physiotherapy to an established system ........................................................................................................... 251
Table 17: Case comparison of emergency staff thematic analysis ....................... 262
Table 18: Critically evaluating elements of data in a systems framework ............... 280
Table 19: Summation of research themes and findings ......................................... 289
List of Figures

Figure 1: The thesis pathway (adapted from O’Meara, 2002) ................................................................. 3
Figure 2: Timeline showing emergency department physiotherapy development ............................... 17
Figure 3: Key factors influencing access block .................................................................................. 34
Figure 4: Interlocking stakeholders .................................................................................................. 49
Figure 5: Evaluating articles using the hierarchy of evidence ............................................................ 61
Figure 6: Critical appraisal scores ..................................................................................................... 62
Figure 7: Diagrammatic representation of a simple system .............................................................. 73
Figure 8: Different populations within a university system (Dooris, 2005, p.61) ............................. 74
Figure 9: Morgan’s paradigm and metaphor relationships ............................................................... 78
Figure 10: Summary of relevant properties creating the research’s systems framework ....... 80
Figure 11: Combining systems principles to create the theoretical framework ............................. 84
Figure 12: The ‘case’ as a bounded system ......................................................................................... 90
Figure 13: Example of field journal documentation ......................................................................... 97
Figure 14: Conceptual drawing of an emergency department .......................................................... 98
Figure 15: ‘Inverted pyramid’ approach to data collection ............................................................. 101
Figure 16: Typology of qualitative findings (Sandelowski and Barroso, 2003, p.908)........ 104
Figure 17: Example of thematic hierarchy from patient data .......................................................... 116
Figure 18: Example of a coding wall – emergency department patients’ data .................................. 117
Figure 19: Summary of data analysis ............................................................................................... 117
Figure 20: Summary of multiple data sources ................................................................................. 119
Figure 21: Conceptual layout of TTH Emergency Department ......................................................... 128
Figure 22: Conceptual drawing of human elements within the TTH emergency system .......... 131
Figure 23: Conceptual layout of the AH Emergency Department ..................................................... 134
Figure 24: Conceptual drawing of human elements within the AH emergency system .......... 137
Figure 25: Case comparisons of patient occupations ........................................................................ 140
Figure 26: Conceptual process of emergency care ........................................................................... 144
Figure 27: Patients’ perspectives on the system ............................................................................... 178
Figure 28: Community health professionals’ perspectives on the system .................................... 210
Figure 29: ED staff perspectives on the system ............................................................................... 272
Figure 30: Systems theory and emergency department physiotherapy ........................................ 276
Figure 31: Austin Hospital’s Emergency Department physiotherapy service as a filter .................. 277
Figure 32: Physiotherapy’s link to The Townsville Hospital Emergency Department ............... 278
Figure 33: Core components of emergency department physiotherapy ........................................ 282
Figure 34: Ownership of emergency department physiotherapy .................................................. 285
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)
<table>
<thead>
<tr>
<th><strong>General Systems Theory</strong></th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Homeostasis</strong></td>
<td>Any process which regulates or maintains a system in a stable state in relation to a changing external environment in which this system operates (&quot;Collins Dictionary of Sociology,&quot; 2000).</td>
</tr>
<tr>
<td><strong>medTRAK</strong></td>
<td>An emergency department computer system which displays patient histories, triage categories, their location within the hospital and investigations being conducted.</td>
</tr>
<tr>
<td><strong>Metaphor</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Overbounded System</strong></td>
<td>A system too constricted by boundaries and disconnected from the external environment (Alderfer, 1980).</td>
</tr>
<tr>
<td><strong>Open System</strong></td>
<td>A system which has strong boundary permeability which allows more pronounced relationships between inputs, outputs and the environment.</td>
</tr>
<tr>
<td><strong>Soft Systems Methodology</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>System</strong></td>
<td>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 (Sturmberg, 2004)</td>
</tr>
<tr>
<td><strong>Underbounded system</strong></td>
<td>A system with too much boundary permeability causing great entanglement with the external environment. The system risks losing direction and identity (Alderfer, 1980).</td>
</tr>
<tr>
<td><strong>Victorian Ambulatory Classification System</strong></td>
<td>A model that provides the emergency department with funds based on attendance to the department weighted by triage category.</td>
</tr>
</tbody>
</table>
### Abbreviations

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