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Paediatric nursing : an investigation of the effect of specialist paediatric nurse education on the quality of children's nursing care in Western Australia

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Paediatric nursing: An investigation of the effect of specialist paediatric nurse education on the quality of children's nursing care in Western Australia

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June 2012

USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

Abstract

In Australia, specialist education in paediatrics is not a requirement for nurses caring for hospitalised children. Thus, nurses can work in paediatrics without any prior knowledge of the unique needs of children such as developmental stages or separation anxiety. As a consequence, there are some clinicians and authors who advocate that when children require health care, they should be cared for by nurses who are educated in, and understand the specific physical, psychological and social needs of children. Despite this, the evidence is lacking as to whether specialist nurse education affects the quality of care in paediatrics.

This study investigates whether the quality of care that children and their families receive is different to when they are nursed by specialist paediatric nurses (SPNs) compared to non-specialist paediatric Registered Nurses (NSPNs). SPNs are Registered Nurses who have undertaken specific or further education in paediatrics and NSPNs are Registered Nurses who have no specific or further education in paediatrics.

This research was prompted by national policy changes in Registered Nurse (RN) education which shifted the focus from hospital-based training to the tertiary sector. There has not been a review of paediatric nurse education in Australia since these changes in 1994.

Quality measures have been developed for the admission procedure as it is the most common clinical procedure performed in hospital on children. The quality measures were defined by the literature and a Delphi Panel of international paediatric nursing experts.

The five stage methodology incorporated: (i) a desk analysis of the literature and policies regarding paediatric nursing and education to identify quality measures (QMs); (ii) development of QMs for the most common hospital procedure for children, the admission procedure; (iii) the development of a consensus definition of QMs using the Delphi method; (iv) observation of RNs using video during the admission of children to the hospital to test the proposed QMs and measure whether SPNs behaved differently to NSPNs; and (v) a follow-up on-line survey of all of the observed RNs regarding their perceptions of other factors influencing their practice.

This research found that overall, SPNs meet the quality measures during the admission procedure significantly more often than NSPNs ($p=0.009$). When the QMs were analysed individually, the analysis showed a significant relationship between education and some of the QMs, but not in others where the relationship was not statistically different. This leads to the assumption that there are other factors than the level of specialist education which affect the quality of care such as prompts on admission forms and/ or the RNs' personal experiences. However, in the on-line survey of the sample, the RNs reported that tailored education has played a major role in their care delivery to children and their families.

The findings of this research indicate that in Australia, the 'comprehensive' nursing model, which leads to the qualification of RN, may not be the best model for delivering the highest quality of care to children and their families.

Declaration

I certify that this thesis does not, to the best of my knowledge and belief:

- (i) incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;
- (ii) contain any material previously published or written by another person except where due reference is made in the text; or
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Table of Contents

Use of this thesis.....	ii
Abstract.....	iii
Declaration.....	iv
Acknowledgements.....	v
Table of Contents.....	vi
List of Tables	xi
List of figures	xiii
Definition of terms	xiv
Chapter One: Introduction	1
1.0 Introduction – Chapter overview.....	1
1.1 The uniqueness of children	2
1.2 Historical background to the study	3
1.3 Government policy	4
1.4 Quality health care	5
1.5 Specialist education	7
1.6 Research aim.....	8
1.7 Significance of the thesis.....	11
1.8 Structure of this thesis.....	12
1.9 Summary of the introduction	13
Chapter Two: The history of paediatric health care.....	15
2.0 Introduction	15
2.1 The development of children’s hospitals in the United Kingdom, Europe, the United States of America and Australia	15
2.2 Child development: The history of a developing evidence base and its impact on system reform	19
2.2.1 Physical differences	19

2.2.2 The growing recognition of the psychological and social needs of children in hospitals.....	23
2.2.3 Child development theories.....	24
2.3 Separation anxiety and managing children in hospital.....	29
2.4 Family centred care.....	34
Chapter Three: The development of paediatric nursing	36
3.0 Introduction	36
3.1 Brief history of nurses' clinical education and training	36
3.1.1 Nurse education in the U.S.....	37
3.1.2 Nurse education in the U.K.....	38
3.1.3 Nurse education in Australia.....	40
3.1.4 National health reform	42
3.2 Constituents of optimal nursing care for children	44
3.3 Quality in health care	46
3.4 Summary of the literature	51
Chapter Four: Methodology	53
4.0 Introduction	53
4.0.1 Context for testing the research question	54
4.0.2 The hypothesis to be tested and the research questions.....	55
4.0.3 The null hypothesis for this research project	55
4.1 Review of the professional literature - Stage One A	56
4.1.1 The search strategy	56
4.1.2 Quality measures	58
4.1.3 Literature review findings. Stage One B	59
4.1.4 Results from the government documents and publication search.....	60
4.1.5 Defining the QM development procedures for the Delphi data collection	62
4.2 The Delphi consensus building data collection	63
4.2.1 Validity of the Delphi technique	66

4.2.2 Drawbacks to the Delphi method.....	67
4.2.3 Variations to the Delphi method	67
4.2.4 The Delphi Panel selection criteria	68
4.2.5 The Delphi Panel recruitment process.....	70
4.2.6 The Delphi first wave data collection	70
4.2.6.1 Refinement of the Delphi First Wave results.....	72
4.2.7 Delphi Second Wave data collection	72
4.2.7.1 Analysis of the Delphi Second Wave results	74
4.2.8 Delphi Third Wave data collection	74
4.2.9 Quality Measure (QM) development: Fourth (final) Wave	75
4.2.10 Paediatric admission process quality measures	77
4.3 Stage four: Observational research and data collection.....	80
4.3.1 The Hawthorne Effect.....	80
4.3.2 Observation research using video	81
4.3.3 Ethics approval.....	84
4.3.4 Nurse (RN) sample and recruitment	84
4.3.5 The final sample.....	86
4.3.6 Demographic information from nurse subjects.....	88
4.3.7 Pilot study	89
4.3.8 Main data collection: Selection of admission encounters to observe	91
4.3.9 Analysis of the data	92
4.3.10 Reliability of the method	93
4.4 Online survey	95
4.4.1 Analysis of the survey	95
4.5 Summary of the methods	96
Chapter 5: Results and analysis	97
5.0 Introduction	97

5.1 Demographic data.....	98
5.2 Normal distribution by education group	101
5.2.1 Analysis of the two groups with all QMs combined	103
5.2.2 Summary of the analysis of the combined scores.....	107
5.2.3 Analysis of each quality measure by education group	107
5.2.4 Summary of meeting the individual QMs	118
5.2.5 Analysis of independent variables	118
5.2.6 Results of inter-rater reliability	121
5.2.7 Report of other behaviours observed	121
5.3 Results of the RNs' survey	123
5.4 Summary of the findings.....	131
Chapter 6: Discussion of the findings leading to the conclusions.....	132
6.0 Introduction	132
6.1 The difference between quality measures and quality indicators	132
6.2 Summary of the research	134
6.3 Nursing policy and best practice within paediatrics.....	135
6.4 Outlier	138
6.5 Analysis of meeting the QMs.....	138
6.5.1 Quality Measure One	140
6.5.2 Quality Measure Two	142
6.5.3 Quality Measure Three.....	144
6.5.4 Quality Measure Four.....	146
6.5.5 Quality Measure Five	149
6.5.6 Quality Measure Six	152
6.5.7 Quality Measure Seven	156
6.5.8 The effect of independent variables of age and experience.....	158
6.6 Perceived influences on behaviour: RNs' attitudes.....	160

6.6.1 Comments regarding influences on behaviour	162
6.6.2 Nurse (RN) education.....	165
6.7 Implications for paediatric nursing in Australia.....	167
6.7.1 Recommendations for further research	168
6.7.2 Disparity in meeting the individual QMs.....	169
6.7.3 Recommendations for the Commonwealth Government of Australia, state and territory governments and professional bodies	170
6.8 Limitations of this study	173
6.9 Conclusions drawn.....	174
6.10 Contribution to knowledge.....	175
References	177
Appendices	195
Appendix A	196
Appendix B	198
Appendix C	200
Appendix D	203
Appendix E	204
Appendix F.....	206
Appendix G	207
Appendix H	210
Appendix J	210
Appendix K	212
Appendix L.....	213
Appendix M.....	216

List of Tables

Table 4.1 Chi Square tests for initial 12 RNs QM1 Child 2	91
Table 4.2 Chi Square tests for initial 12 RNs QM1 Child 4	92
Table 5.1 Structure of how the findings are presented	97
Table 5.2 Central tendencies of ages	100
Table 5.3 Age range of RNs	100
Table 5.4 Gender by groups	100
Table 5.5 Years worked in paediatrics by groups	101
Table 5.6 Scores of RNs meeting the QMs by group	105
Table 5.7 Mean score by percent of each group which achieved the QMs	105
Table 5.8 Significance of scores between the two groups	106
Table 5.8a Significance of scores between the two groups omitting RN 56	107
Table 5.9 QM 1 by group	108
Table 5.10 Chi square Test for QM1	108
Table 5.10a QM 1 by group RN 56 omitted	108
Table 5.11 Scores of RNs meeting QM 2 child by group	109
Table 5.12 Chi-Square Tests for QM2 child	109
Table 5.12a QM 2 RN 56 omitted	109
Table 5.13 Scores for RNs for QM2 parent by group	110
Table 5.14 Chi-Square Tests for QM2 parent	110
Table 5.14a Chi-Square Tests for QM2 parent RN 56 omitted	110
Table 5.15 Scores by RNs for QM3 by group	111
Table 5.16 Chi Square test for QM3	111
Table 5.16a Chi Square test for QM3 RN 56 omitted	111
Table 5.17 Scores by RNs for QM4 child by group	112
Table 5.18 Chi Square test for QM4	112
Table 5.18a Chi Square test for QM4 RN 56 omitted	112
Table 5.19 Scores by RNs for QM4 parent by group	113
Table 5.20 Chi Square test for QM4 parent	113
Table 5.20a Chi Square test for QM4 parent RN 56 omitted	113
Table 5.21 Scores by RNs for QM5 by group	114
Table 5.22 Chi Square test for QM5	114
Table 5.22a Chi Square test for QM5 RN 56 omitted	114
Table 5.23 Score for RNs for QM6 child by group	115

Table 5.24 Chi Square test for QM6 child.....	115
Table 5.24a Chi Square test for QM6 child RN 56 omitted	115
Table 5.25 Score for RNs for QM6 parent by group	116
Table 5.26 Chi Square test for QM6 parent.....	116
Table 5.26a Chi Square test for QM6 parent RN 56 omitted	116
Table 5.27 Score for RNs for QM7 child by group	116
Table 5.28 Chi Square test for QM7 child.....	117
Table 5.28a Chi Square test for QM7 child RN 56 omitted	117
Table 5.29 Score for RNs for QM7 parent by group	117
Table 5.30 Chi Square test for QM7 parent.....	117
Table 5.30a Chi Square test for QM7 parent RN 56 omitted	118
Table 5.31 Covariance for age and group and score.....	119
Table 5.32 Covariance for years in nursing and group and score.....	119
Table 5.33 Covariance for years in paediatric nursing and group and score	120
Table 5.34 Survey question 1	124
Table 5.35 Survey question 2.....	124
Table 5.36 Survey question 3.....	125
Table 5.37 Survey question 4.....	125
Table 5.38 Survey question 5.....	126
Table 5.39 Survey question 6.....	127
Table 5.40 Survey question 7.....	127
Table 5.41 Survey question 9.....	128

List of figures

Figure 3.1 Framework for quality paediatric nursing care	50
Figure 4.1 Quality statements (admission procedure) identified from the literature.....	61
Figure 4.2 explanation and instructions to the Panel regarding the Delphi method.....	71
Figure 4.3 Delphi Panel first wave quality statements for the admission procedure.....	73
Figure 4.4 Example of the collated responses from Delphi Panel First Wave	744
Figure 4.5 Examples of QMs from the Third Wave	755
Figure 4.6 Score sheet for QMs	78
Figure 4.7 Final seven QMs for the admission procedure	79
Figure 4.8 Power calculations to determine sample size	88
Figure 5.1 Numbers of RNs by group	99
Figure 5.2 Age range of the RNs.....	99
Figure 5.3 Years worked in paediatrics for all RNs.....	101
Figure 5.4 Distribution of SPN meeting QMs	102
Figure 5.5 Distribution of NSPN meeting QMs	102
Figure 5.6 Distributions of both groups meeting QMs.....	103
Figure 5.7 Scores of RNs in meeting the QMs	104
Figure 5.8 Themes which emerged.....	124
Figure 5.9 Positive influences on RNs working with children	129
Figure 5.10 Negative influences on RNs working with children	130
Figure 5.11 Other influences upon RNs working with children.....	131

Definition of terms

Adolescent	A young person aged 13 to 18 years of age (London, Ladewig, Ball & Bindler, 2007).
Carer	For the purposes of this research, carer is used to mean a parental figure. A carer can be parents, partners, brothers, sisters, grandparents or friends (Carers Victoria, 2005).
Child Health Nurse	An RN with a qualification in child and family health. They provide services in partnership with parents and carers of babies, and young children up to the age of four years (Department of Health, Western Australia [DoHWA], 2007).
Comprehensive Nurse	A beginning qualified RN able to nurse, with support and guidance in hospitals, in health care agencies and in community health settings. They require further nursing studies beyond that needed for initial registration if intending to specialise in any area of nursing practice (NBWA, 2004).
Child Development	The progression of body, intellect and personality at a predictable rate (Sheridan, 1985).
Developmental Stage	Relates to how a child functions and how well they can adapt to their environment (Hogan, White, Falkenstein, & Brancato, 2007).
Family Centred Care	Care which involves not only the child but the child's family (Coyne, 1996).
Graduate Nurse	An RN who has received a degree or diploma in nursing from a university, college or school.
Hospital Services	Includes in-patient, out-patient, hospital in the home, and visiting nursing services.
Hospitalisation	When a child is admitted as an in-patient as a day patient or for a longer period.
Infant	Twenty eight days to one year of age (White, 2005).
Neonate	Birth to 28 days old (White, 2005).
Non-specialist paediatric nurse [NSPN]	See comprehensive nurse definition.
Specialist paediatric nurse	
[SPN]	An RN who has undertaken extensive further training and has a deeper understanding of child development, and the importance of the family to the child. (Prospects, 2007).
Parent	Father or mother, or those that act in this capacity by providing guidance and nurturing to a child (Friedman, Bowden & Jones, 2003).
Preschool child	Three to six years of age.
Quality care	The extent to which a health care service or product produces a desired outcome (Australian Commission on Safety and Quality in Health Care [ACSQHC], 2009).

- Registered Nurse**.....A nurse who has completed a course in nursing who "... demonstrates competence in the provision of nursing care as specified by the registering authority's license to practice..." (ANMC, 2005, p.1).
- Safety**.....A state in which risk has been reduced to an acceptable level (Australian Commission on Safety and Quality in Health Care, 2009).
- Student nurse**.....A pre-registered nurse undertaking a nursing course at a university or a college of Technical and Further Education (TAFE) in Australia.
- Toddler**.....One year to three years of age (White, 2005).

“...if you take away a sick child from its parents, you immediately break its heart.” (George Armstrong, 1796)

Chapter One: Introduction

1.0 Introduction – Chapter overview

This chapter introduces the study starting with a succinct overview as to why children have unique needs when they are hospitalised and why nursing education which focuses on these needs may be a determining factor in the quality of nursing care provided to hospitalised children. Next, the historical events which have shaped children's nursing education and paediatric nursing since the 19th century are identified, and how these events have impacted upon Commonwealth, state and territory government policies in Australia is examined. The chapter then links the influence of child health needs, historical events, and regulatory factors upon the quality of health care and distinguishes between quality indicators, for example, an objective measure of appropriate nursing care processes such as a reduction in the prevalence of drug errors, and quality nursing care processes such as the actual clinician behavioural activities provided to the hospitalised child and family. Specifically, this research investigates the question whether specialist paediatric education affects the quality of care provided to children; that is the actual behaviour of nurses (RNs) working with children. An exploration of the association between paediatric nursing, quality care and education is important to this study. This is because in some developed countries, such as the United Kingdom (U.K.) and the United States (U.S.), hospital RNs working within paediatrics will at some point, be required to undertake specialist education to ensure the maintenance of high quality care delivery to children and their families. This category of specialist education is not yet required in Australia which may have some effect on the quality of care delivered to children.

The effect of specialist paediatric nurse education has been debated in many countries for several decades questioning whether specialisation makes any difference to the quality of care delivered. Thus, the research question of this study is:

In Australia, does specialist education in paediatric nursing influence RNs' behaviour and affect the quality of care in relation to their interpersonal interactions with children and their families during their admission to hospital?

1.1 The uniqueness of children

Extensive research conducted since George Armstrong's 1796 seminal statement has demonstrated that children are physically, psychologically and socially different to adults (Bowlby, 1953; Bowlby, Ainsworth, Boston & Rosenbluth, 1956; Glasper & Richardson, 2011; Pillitteri, 2009; Sheridan 1985; Smith & Daughtrey, 2000; Whaley & Wong, 1979). The research has led to widespread acknowledgement that children are 'not little adults' (Hockenberry & Wilson, 2009; Klossner & Hatfield, 2006). Significantly, treating children like small adults in health care settings results in the quality of care being compromised (The Royal College of Australasian Physicians [RACP], Association for the Wellbeing of Children in Healthcare [AWCH], Children's Hospitals Australasia [CHA], 2008).

For example, the younger the child, the more differences there are in the physique of the child, such as a proportionally narrower airway which is more prone to blockage from secretions during a period of sickness (Sanders, 2007). Children's psychological development is also different to adults. For example, before a child's second birthday, the ability to understand emotions is unlikely and emotional maturity is improbable until school age (Johnson & Keogh, 2010). Due to their immature emotions, their lack of understanding of concepts, and their inability to communicate thoroughly, children cannot always verbalise their concerns if something seems incorrect. Also, if children's play needs are not met, then normal development is interrupted (RACP, AWCH, CHA & ACCYPN, 2008). It is for these reasons that some clinicians advocate that when children require health care, they should be cared for by professionals who are educated in and understand the aforementioned differences. In addition, some clinicians suggest that children should be nursed in separate environments from adults in order to afford them specialist care and to protect them from 'unnecessary trauma' associated with seeing and hearing distressing sounds of sick or injured adults (Action for Sick Children, 1997; Australasian College for Emergency Medicine & Australian College for Paediatrics, 1986; British Paediatric Association, British Association of Paediatric Surgeons & Casualty Surgeons Association, 1988; Davies, 2008; RACP, AWCH & CHA, 2008, p. 3). If infants and young children have negative experiences or perhaps more importantly, they are denied appropriate stimulation, there is a high risk of them having long lasting, serious effects (Shore, 2003). The deleterious effects of hospitalisation have been well documented over the last two centuries (Bowlby, et al., 1956; Hockenberry & Wilson, 2009; Robertson 1953; Spitz, 1945).

1.2 Historical background to the study

Paediatric nursing has undergone many changes since the opening of the first children's in-patient hospital in the 19th century. Great Ormond Street Hospital (GOSH) opened in London in 1852 (Baldwin, 2009). Other cities in the U.K. subsequently opened hospitals for sick children including: Edinburgh in 1860 (NHS Lothian, 2007); Birmingham in 1862 (Waterhouse, 1962); and Brighton in 1881 (Brighton and Sussex University Hospitals, 2008). In the early years of these hospitals, there was open access for families to care for their sick child (GOSH, 2009), in much the same tradition as general hospitals which utilised family members as unpaid carers. This policy was superseded as knowledge about infection control spread throughout the late 19th century which determined that families and visitors posed a great risk to sick children by introducing infections (Baldwin, 2009). Thus, by the turn of the 20th century, families were excluded from staying in the hospitals and were only allowed to visit their child for short periods, at specified and fixed times (Jolly, 2006; Markel, 2008; Piercey, 2002). While there is no reference as to how this exclusion was enforced, it appears that families complied with the hospital directives.

In the latter half of the 19th century and the first half of the 20th century this near-total exclusion of parents and families from participating in their child's care was replicated in many countries worldwide (Jolly, 2006; Markel, 2008; Piercey, 2002). The policy of excluding families from a child's care as the accepted method of physical and psychological care of hospitalised children was reinforced in the 1920s by work done by the behaviourist John Watson (1913, 1928). Watson (1928) argued that only observable behaviour was important and thoughts or feelings should not be considered as part of caring for children. It was universally accepted that emotional care was not important, regardless of the normal support children traditionally received from their families. In the U.S., this popular belief was held until challenged in the 1940s by Benjamin Spock (1946) who advocated that parents needed to be flexible and if children were upset, then comforting them was natural.

Researchers were also contesting the notion of separating children from families in medical settings, arguing that doing so was detrimental to their emotional wellbeing and also had an impact upon children's clinical recovery (Bowlby, 1940; Pickerill & Pickerill, 1946; Spence 1947; Spitz, 1945). However, the research to support this view was either ignored or not seen as important and the practice of children being routinely separated from families continued until the 1950s when the potential harmful effects were broadly realised. Based upon studies undertaken

in the 1940s from the U.S. (Spitz, 1945) and from studies in 1950s in the U.K. (Bowlby, 1951; Bowlby, et al., 1956; Robertson, 1953) researchers published work which recognised parting children from parents was potentially harmful. This harm from parting children from their parents could have long lasting effects on their development, this phenomenon being labelled 'separation anxiety'. A more contemporary view of separation anxiety is described being a normal development stage which children experience when they feel unsafe (ADAM inc, 2010). Despite this, Bowlby and Robertson were describing pathological changes when children were admitted into hospital and separated from their principle caregiver[s].

Separation anxiety became a major issue in paediatric nursing because it brought about recognition of the importance of families in the care of children. Today, the philosophy of family members being encouraged to stay in hospital and being involved with the care of their child has become accepted in many countries, including Australia, the U.S., and Europe (DoHWA, 2008; HMSO, 1959; Sainsbury, Gray, Cleary, Davies & Rowlandson, 1986; Shields & Tanner, 2004; Smith, 1995). By encouraging family involvement in caring for their sick children, separation anxiety has been dramatically reduced in hospitals (Shields & Nixon, 2003). Family centred care (FCC) and patient-centred care are labels now used to describe family involvement in the caring process and these approaches are directed at improving the health of the family members receiving health care (Harris, Nagy & Vardaxis, 2009). Patient-centred care is subtly different to FCC as the latter is specific to children and defined as a philosophical approach to the health care needs of children and their families. FCC recognises the importance of families within health care and concentrates on partnerships with parents, siblings, grandparents and significant others in the care regime (Harris, et al., 2009).

1.3 Government policy

In the U.K., research which recognised the need for families to be involved in the care of their child and the need for children to be nursed in specific child friendly environments led to the publication of *The Welfare of Children in Hospital*, which is commonly known as *The Platt Report* (HMSO, 1959). This report had a major impact upon paediatric nursing and shaped the way children are cared for in hospital in many parts of the world (aside from the U.K.) including the U.S. and Australia (Shields & Nixon, 2003). The Platt Report was a landmark document in the nursing care of children because it was the first government report which linked the nursing care of children with specialist RN education. The Platt Report stated that ward sisters should have specialist paediatric education and that other RNs working within paediatrics should be trained in

the needs of children. The Platt Report was responsible for changes to paediatric nursing and children's nurse education within the U.K. and many other countries such as the U.S. and Canada (Davies, 2010).

In the U.K., the recommendations of the report were welcomed in many areas but in some hospitals and units, they were slow to be implemented (Robertson, 1960; Wood, 2008). This situation continued for several decades as there were many inconsistencies in how the recommendations of the Platt Report were to be implemented (Davies, 2010). This culminated in the U.K. Government issuing a directive to health care providers mandating that RNs working with children must undertake specialist education in paediatric nursing (DoH [U.K.], 2004).

The Commonwealth Government of Australia did not follow the U.K.'s lead but maintains that it is 'desirable' for nurses working with children to be educated or trained in paediatrics (Australian Council on Healthcare Standards [ACHS], 1998). Although the ACHS made this recommendation in 1998, there has never been a requirement by any state or territory government to incorporate this into health plans for children. This may affect the quality of care children and families receive in hospital within Australia.

1.4 Quality health care

There are many definitions of quality in health care (Commonwealth Government of Australia, 2009; Institute of Medicine, 2012; Runciman, et al., 2009). For example, Runciman et al. (2009, p. 24) describe quality in health care as "care processes" (what is done to a patient) that are linked to, and produce, "desired health outcomes", that is, a healthy patient that is consistent with current professional knowledge. These 'desired outcomes' are being increasingly met through regulatory strategies which ensure that "... patient safety practices ... are carried out" (Healy & Dugdale, 2009, p. 3). Kelly and Hurst (2006) linked safety to effectiveness, emphasising how safety specifically aims to prevent adverse outcomes or sentinel events. This can be interpreted as delivering the care processes consistent with current professional knowledge. This is one reason why quality and safety are closely linked. If high quality care is not delivered, it impacts upon effectiveness and safety (Healy & Dugdale, 2009).

In recognition of the challenges defining quality as an entity, the Commonwealth Government of Australia identified various dimensions to quality health care including effective care, appropriate care and safe care (AIHW, 2009). These and many other definitions link quality to the avoidance

of adverse/ sentinel events or insist patients spend less time occupying a hospital bed (outcomes). Thus, the link between quality and safety is now well established (ACQSHC, 2009); yet the interaction between health care workers and users of health services has not been well linked to quality and safety. In many health care encounters, much of a patient's experience of health care is in terms of interaction with health professionals, particularly with the nursing profession since nurses are the primary care providers to individual patients, including sick children (Garretson & Rauzi, 2008; Leebov, 2010; National Nurses' Organisation Committee, 2009; NSW Rural Health Network, n.d.; Royal Children's Hospital [RCH], 2009). Hence, in Australia, the quality of the personal interactions between health care professionals and care recipients is a key predictor of the quality of health care itself.

In this research the care recipients are children and families. Some authors suggest that in order to achieve high quality care during interactions with children and families, nurses need to recognise the physical, psychological and social uniqueness of children (Glasper & Charles-Edwards, 2002; Shields & Nixon, 1998). For example, Bruce and Ritchie (1997) suggested that nurses need to understand the elements of child development and physiology as well as the family centred approach. Moreover, they argue that this can be best achieved through specialist paediatric education. However, Bruce and Ritchie's position was not drawn from any specific study: it appears to be based on their personal views.

Thus, from a paediatric perspective, there is more to high quality care than obvious events such as avoidance of drug errors (Healy & Dugdale, 2009). High quality care includes preventing the negative effects of hospitalisation such as minimising the risk of separation anxiety. Harmful experiences such as separating children from their principle carers can have a long term negative effect on a child's development (Coyne, Timmins & Neill, 2010; Shore, 2003). To minimise these potential adverse effects, professional knowledge is needed which might best be gained through specialist paediatric nurse education. To date, the need to undertake specific education to work with children is only a recommendation in Australia (Australian Council on Health Care Standards, [ACHCS] 1998; DoHWA, 1990; HMSO, 1991; RACP, AWCH & CHA, 2008; Wood, 2006). The next section presents relevant literature regarding specialist paediatric education.

1.5 Specialist education

Evidence suggests that children's health care needs are often treated as secondary to those of adult patients, that is, adult patients' needs may be seen as more of a priority than those of children (Freed, Sewell & Spike, 2011; Glasper & Charles-Edwards, 2002; Department of Health U.K. [DoH, U.K.] , 2004). For example, Freed et al. (2011) question if appropriate care will continue to be offered to children, given the increase in the ageing population and, a recent trend in the U.S. of some GP practices only offering care to adult patients (Freed, Dunham, Gebremariam & Wheeler, 2010). Another example of adults' health care needs seen as a higher priority is presented by Mcnee, Clarke and Davies (2005, p. 212) who describe how clinical skills are taught to nurses generically thereby presenting difficulties to student nurses when transferring these taught skills to children's areas. The Bristol Royal Infirmary Inquiry into children's heart surgery found that adult cardiac patients were seen as a priority over children (DoH, U.K., 2001). The report also described how there were too few specialist paediatric nurses inferring that if more specialist paediatric nurses (SPN) were employed, adverse/ sentinel events may have been fewer. The RACP, AWCH, CHA and ACCYPN (2008) recommend that health care facilities admitting children have at least one SPN on duty at all times.

Nonetheless, evidence linking SPN education and the quality of care delivery is lacking (Robertson, et al., 2002). The literature describes the need for specialisation in paediatric nursing without demonstrable evidence that SPN care delivery is any different to NSPN. Therefore this study was deemed necessary as a first step in determining if specialist RN education has any effect on the quality of care delivery to hospitalised children and their families.

Several personal communications with parents reveal the false assumption that every nurse working at children's hospitals has undertaken specific education in paediatrics. This is not only the case in Australia, it also occurs to a lesser extent in the U.K. even where it has been mandated that specific education should be undertaken by those offering health care to children (Casey, 2002, Jolley & Shields, 2009; NMC, 2004).

Other factors which can contribute to the difficulties within paediatrics are the variations between chronological age and stages of development. These variations are described in more detail in Section 2.2 but include such observations as during the neonatal period the head accounts for 20% of the total body surface area (TBSA) whilst during adolescence, the head only accounts for 9% of the TBSA (Dieckmann, 2006). Other examples of developmental differences are smiling

which generally occurs at six weeks old and the ability to sit unaided at six months of age (Glasper & Richardson, 2011). It is important for RNs to be aware of these stages not only to assess if a child is achieving the developmental milestones but to be aware of the ability of a child to understand certain concepts such as pain relief when a child is hospitalised (Glasper & Richardson, 2011).

Finally, health care education in Australia presents its own problems for quality paediatric practice where generalist rather than specialist education is viewed as the best use of resources because recruitment and attrition remains a possible problem for governments (Heath, 2002). Therefore, while there are many elements of the patient/ provider and health care delivery process that contribute to clinical outcomes and children's experiences, it is important to examine what, if any, impact special education may have upon the quality of care delivered to children and their families.

1.6 Research aim

The aim of this investigation is to develop quality measures focussed on the interactions of RNs with hospitalised children and their families, test for any differences in respondents, and then measure any differences in respect to the level of specialisation of their educational qualifications. The quality of care is usually linked to outcomes or indicators and often related to safety, for example, a reduction of adverse/ sentinel events such as fewer patients falling in hospital and hurting themselves, or a reduction in the number of days spent in hospital (American Nurses Association, 2007; Beal et al., 2004; Kelly & Hurst, 2006; Runciman et al., 2009). From a paediatric perspective, quality care includes knowledge of the physiological and psychological development of children and the ability to identify particular stages of development of each child encountered; good paediatric nursing practice including interactions with children and families; and FCC (health care which is focused on the needs and desires of the child [patient] involving negotiating and supporting the whole family in planning, goal setting and decisions about the child's care [Shields, Pratt & Hunter, 2006]). While there are a variety of established quality indicators for good paediatric health care practices like understanding of psychosocial development; and FCC (Coyne, et al., 2010; Glasper & Richardson, 2011), for this research, quality paediatric health care as defined above will be measured through the interactions between RNs, children and families to determine if, and in what way specialist paediatric education influences the interactions. Identifying what aspects of these interactions define quality care was achieved using the Delphi method. A panel of 15 international paediatric nursing

experts was recruited for the Delphi Panel. The researcher collated the aforementioned paediatric quality indicators from the literature and consensus was achieved by the Delphi Panel defining paediatric quality care.

Therefore, a number of quality measures (QMs) has been developed for paediatric nursing practice; however there were few, if any, measures that focus on the way RNs interact with children and families as a marker for having an understanding of quality paediatric care through specialist education. Therefore this research will contribute to the literature by exploring if specialist paediatric nurse education has any impact on the quality of nursing care delivery to hospitalised children and their families. Consequently, as part of this research, quantifiable quality measures (QMs) of clinical behaviour which focus on the interactions of RNs with children and their families were developed in order to determine if the best achievable outcomes in paediatric health care are achieved. The QMs developed as part of this study can be used to build a framework for specialist education in paediatric nursing to ensure that children and their families receive the best achievable outcome with regard to quality nursing care.

Using the literature and available government policies, draft QMs in children's nursing were identified for the admission procedure. Final admission procedure QMs were then achieved through consensus of an international panel of paediatric experts using the Delphi technique.

The QMs measure whether RNs working with children meet certain quality performance standards as developed through the literature review and QM development activities. In this study, data were collected measuring 1) if FCC is practised, for example, whether the RNs were observed negotiating care with the parents of the child; 2) if RN behaviour exemplifies a knowledge and understanding of the stages of child's physiological and psychological development, for example, RNs acknowledging children as entities in their own right, by assessing the children's developmental age as part of the admission procedure; or RNs actual paediatric clinical care being influenced by their level of professional education, for example, they were observed interacting with the children using age appropriate language and/ or concepts.

The above items measured were considered vital components of paediatrics, thereby ensuring RNs recognise, understand and practise them through education. Accordingly, if the RNs with a specialist paediatric education, specialist paediatric nurses (SPN), meet the QMs more often than RNs without a specialist paediatric education, non-specialist paediatric nurses (NSPN), then education may be one of the most significant factors in quality care delivery.

As noted, there are such sub-specialities within paediatrics as neonatology (birth to 28 days old), and adolescence (12 to 18 years of age). However, due to the great variation in the stages of development by children in these categories and the specific age/ development nature of the quality markers (QMs), it is impossible for all age groups and all potential quality markers to be included in this study (see Limitations, Section 6.7). Therefore, the researcher has focussed upon the development stages of toddlerhood to pre-school children which encompasses the ages of one to five. This age group was used because on average, children over 12 months of age can walk, they have developed fine motor skills, and have some understanding of simple words such as 'no' and 'drink' (Queensland Health, 2003). As such, they can interact with nurses during the admission procedure; infants interact less so. The upper age limit of below six years was chosen because on average, when children start school, they can participate within groups, they have an understanding of other peoples' needs and understand more complex grammar (Queensland Health, 2003). Pre-school children generally have not reached these milestones hence it is necessary for nurses to use specific skills which recognise the communication and developmental limitations during the admission procedure for this group of children. Nevertheless, focussing upon one age group is acknowledged as a limitation of the research. This research explores key issues which have an impact on sick children and their families. The issues are described and discussed in detail and include:

- The physical, psychological and social differences between children and adults which are paramount to effective and appropriate clinical care and patient safety;
- The importance of families to children's wellbeing and how much involvement the family wants, or is able to achieve (family centred care);
- Child friendly environments in relation to quality and safety in paediatric nursing;
- The manner of RNs interaction with children and their families and how this impacts upon the quality of care and clinical outcomes;
- Commonwealth Government and state and territory government policies relating to children;
- The relationship between education level of the RNs and its effect on the quality of care they deliver; and
- The perceptions of RNs as to the influencing factors on their care delivery.

1.7 Significance of the thesis

This thesis makes a substantial contribution to the current understanding of quality care in paediatrics and specialisation in nursing education. This Australian based study is significant because it is the first paediatric nursing observational research using video-recording in the field for assessment of how quality behaviour may be affected by specialist education (Rennie & Rudland, 2002). Thus, by using video observation, the RNs' behaviour is observed allowing inferences to be made about their knowledge and attitudes (QuickMBA, 2010; Sahney, n.d.).

To date, there are no measures of quality highlighting the importance of the interactions between RNs and hospitalised children and their families. Therefore, for the first time, specific quality measures (QMs) were developed for the admission procedure which focuses upon these interactions. In addition, when they are linked to specialist paediatric RN education, and they are used whenever a child is admitted to hospital, the QMs can help reduce any potential harmful effects which children experience when hospitalised, such as separation anxiety, misunderstanding of procedures, or explanations leading to increased stress.

Moreover, while specialised paediatric education is seen as important in other developed countries such as the U.K., in Australia, there is no requirement for RNs working with children to undertake any specific education in paediatrics. This research aims to explore whether this type of education has an impact on the quality of nursing care children and their families receive in hospital. Although the Commonwealth Government of Australia has published many documents relating to the prevention, health and wellbeing of children (DOHA, 2007; 2008; 2009), no official national policy exists regarding specific education programs for RNs who work with sick children. The Commonwealth committed \$20million dollars to the social and environmental influences upon children in a longitudinal study Growing Up in Australia (2002). This ongoing study aims to examine the effects of culture and environment on children born in the late 20th and early 21st centuries. This well-funded initiative which aspires to identify events which may have an adverse affect on child health does not include the impact of children being hospitalised. However, a plethora of literature surrounds the adverse effects of hospitalisation on children (Bowlby & Robertson, 1953; Glasper & Richardson, 2011; Hockenberry & Wilson, 2011; London, Ladewig, Ball & Bindler, 2007; Potts & Mandleco, 2012; Robertson & Bowlby, 1953; Weller, 1986). Therefore, this study also contributes to RN education policies because the results will highlight the positive effects of specialist education upon improving the quality of care within paediatrics.

In summary, a number of factors have been identified which affect the quality of care that hospitalised children and their families receive within the Australian health care system and include:

- Quality care within paediatric nursing encompasses children and their family's experiences of health systems including access to specialist services and what users of services should expect during a health event which is not just about safety or lack of adverse/ sentinel events (Health Quality and Complaints Commission [HQCC] Act, 2006).
- Specialist paediatric nurse education does affect the quality of care hospitalised children and their families receive but, although recommendations have been made regarding paediatrics there is no requirement for further education to be taken by RNs who work with children in Australian hospitals (Evaluation & Quality Improvement Program [EQUIP] 1998).
- Expert knowledge and understanding of how the physical and emotional development of children may make them more vulnerable to hospitalisation is essential due to the lack of maturity of children.
- Co-locating adults and paediatric patients compromises the quality of care children and their families receive (ABC, 2010; Bennet, 2009).
- Commonwealth, state and territory governments and professional nurses' boards do not acknowledge the importance of children's nursing as a specialty area (Heartkids, n.d.).

All of the above factors are discussed in much more detail in the literature review because of their importance to paediatric nursing care.

1.8 Structure of this thesis

Chapter Two describes pertinent literature regarding some of the history of children's nursing. It also includes important aspects of child development relevant to the child's hospital experience and their experience of specific interaction with health care professionals. Separation anxiety is discussed as an important component of child health and development. The latter diminishes as familiar, secure networks become an important aspect of child development. Family centred care is described in detail.

Chapter Three examines government policy relating to health and RN education. The effect upon paediatric nursing of international and national issues in health care are described as are Commonwealth Government, state and territory government policies. The latter were meant to guide the development of quality issues in paediatric nursing but there are so few specific policies in Australia which relate to children's nursing that description was not possible. Also described in this chapter is how the researcher developed the quality measures for two specific procedures in paediatric nursing. As quality is a major component of this thesis, the literature pertaining to standards and quality is reviewed. Australian Government policy in 1984 directed that RN education should be moved to the tertiary sector, thus enabling major policy decisions to be briefly reviewed. The chapter then focuses upon the current structure of RN education and how it may have affected the interaction between RNs, children and their families.

Chapter Four describes the methodology of study including the Delphi method and how the Panel was chosen. The chapter describes the video observation method incorporating an explanation as to why the researcher chose observational research using video technology. Included in this chapter are features of the research sample of SPNs and NSPNs.

Chapter Five contains the research findings and the approach for validation of the results using an independent rater.

Chapter Six discusses the findings from the research. It highlights any differences between RNs who have completed specific specialist education in paediatrics and those who have not. This chapter describes the limitations of the study and presents the researcher's conclusion and recommendations for further investigation.

1.9 Summary of the introduction

The researcher first conceptualised this study as response to observing differences in the quality of nursing care of hospitalised children and their families, albeit without insight into all the factors behind such differences.

Using the literature, the thesis aims to define the quality of care in paediatric nursing by measuring whether QMs are met and identifying any differences in meeting the QMs between RNs with a specialist education (SPN) compared to RNs without the specialist education in

paediatrics (NSPN). The views of experts in paediatric nursing have been drawn upon to define the QMs.

The next chapter provides a broad overview and commentary on the history of paediatric health care and the reasons underlying this.

Chapter Two: The history of paediatric health care

2.0 Introduction

This chapter discusses literature relating to the historical development of paediatric health care, in particular, children's hospitals, incorporating an examination of the role that child development theory has played in these domains.

2.1 The development of children's hospitals in the United Kingdom, Europe, the United States of America and Australia

The notion that children are not 'little adults' and should be treated differently to adults in the health care setting has been advocated for a long time (Bowlby & Robertson, 1952; Hockenberry & Wilson, 2011; Pilliteri, 2009; Whaley & Wong, 1982). Arising out of this notion of childhood as a unique experience, in the early 1960s, children's advocates began suggesting that children would need speciality nursing (Hockenberry & Wilson, 2011). The importance of families also began to be recognised, including the premise that if a child was separated from their family it would have a detrimental effect upon the child (Bowden, 2000; Smith & Daughtrey, 2000; Hockenberry & Wilson, 2011). Despite these assertions, notions that childhood was something that was distinctively different to adulthood and should be nurtured, were not universally accepted by policy makers nor health care professionals who worked outside of paediatrics (Bendall & Raybould, 1969; Hawthorne, 1974; Kenny, 2003). Furthermore, until the early 19th century, children's unique physical, psychological and social needs were not recognised, either by general society or by health care professionals (Kenny, 2003). To highlight this, it was not until 1833 that children had any specific rights in society. For example, in relation to working hours, legislation passed in Great Britain (1833 Factory Act) stipulated that children between the ages of nine to 13 should only work nine hours a day (Bulford, Nichols, Ballabriga & Kretcner, 1990). Also, it was not until the late 19th century that there was recognition of the importance of families, especially when an individual was not well (Jacobi, 1870). Although not referred to as 'family centred care', Jacobi stated:

... there can be no question about the fact that as a rule, the life and happiness of little children are better protected at the breasts of their mothers and in the circle of their families when there is a mother alive and a family to which they belong. (p. 221)

The belief that children needed to remain within the family unit, even when very ill, was so strongly supported that George Armstrong (1796), the founder of the first children's dispensary in Britain, refused to support the opening of a children's hospital stating "... if you take away a sick child from its parents, you immediately break its heart" (cited in Basford & Slevin, 2003; Brockington, 1966). Nevertheless, the movement for children's rights originating in the 18th century eventually resulted in a wave of the development of health facilities designed exclusively for children. Furthermore, children's hospital development was motivated, in part, by philanthropists and various governments who wanted to address the problem of the large populations of children living in the streets, often without parents, and in absolute poverty (Broughton, 1981).

As described in Chapter One, between 1852 and 1860, more than ten hospitals specifically for children were opened in the United Kingdom (U.K.). While Great Ormond St Hospital for children (GOSH) (2009) claims to be the first, opening in 1852, Manchester Children's Hospital also argues for this position claiming it opened 1829 (Central Manchester & Manchester Children's University Hospital NHS Trust, 2007). At the same time, other European countries had established, or were in the process of establishing, children's hospitals. For example, The Hôpital des Enfants Malades (Hospital for Sick Children) opened in Paris in 1802; Pediatric Pavillion of Charite in Berlin opened in 1830; St Anna Children's Hospital in Austria opened in the 1850s; and Kinderspital in Zurich opened in 1874 (Bulford, et al., 1990).

In the United States of America (U.S.), children who were sick had been traditionally cared for in almshouses. Almshouses were housing or shelter for the poor or those in need and were funded by charities (Bryson, McGuinness & Ford, 2002). Almshouses still exist today but differ from their origins and from other forms of sheltered housing by their charitable status and the promotion of residents' independence (Day, 2009). Perhaps the most infamous almshouse historically was Blackwell's Island in New York. Because the function of almshouses was not, nor is now, to deliver health care, it is not surprising that Blackwell's Island reported a 100% mortality rate for children placed there (Golden, 1989). However, this statistic was in keeping with the experience

of other countries, as mortality was high at all ages due to infectious disease, but was especially high in children. This continued into the 20th century until improvements in public health, sanitation, and nutrition were made (Kylie, 2008; Government of Victoria, 1998). For example, Abraham Jacobi established milk distribution centres in the U.S. in 1899, which supplied uncontaminated milk for mothers of sick infants (Kylie, 2008). Other advances in public health were the discovery of antibiotics and the introduction of small pox inoculation by Edward Jenner (Kylie, 2008; Rosen, cited in Morman, 1993, p. xxv). Even with these improvements, there were still many deaths in the almshouses. This is thought to have inspired the creation of infant asylums as a way to address this and other problems of the poor and orphaned (Shaw, 1913). Shaw unsuccessfully argued for these new asylums to be renamed 'infant hospitals' but regardless of what they were called, the infant asylums/ hospitals were different from the almshouses in that they provided health care for infants rather than just social care. He notes also that this health and social care was also provided to other children as well and not just abandoned infants; parents sent their sick children to these asylums for medical care. Even though there was still a high mortality rate, these new asylums were the first place abandoned infants and children from poor families could receive regular institutionalised medical care.

Although the infant asylums were evolving in the early part of the 20th century, the first reported children's hospital in the U.S. was the New York Foundling Hospital, which opened in New York City in 1854 (Golden, 1989). A year later, the Children's Hospital of Philadelphia (CHOP) opened in 1855 (CHOP, 2010). The Philadelphia hospital is reported to have been inspired after a visit to Great Ormond Street Hospital (GOSH) by Francis Lewis (MD), who upon returning to the U.S., enlisted the help of fellow medical practitioners to establish a children's hospital (CHOP). By the end of the 19th century, most major cities in the U.S. had at least one children's hospital and by 1930 there were 70 paediatric hospitals across America (Golden, 1988).

In Australia, public health programs were developing, such as the establishment of quarantine regulations and the control of other infectious diseases (Government of Victoria, 1998). Sanitation and nutrition programs were instituted in the early 1900s, such as the development of clean water and milk supplies. After the formation of the Federation of the Commonwealth of Australia in 1901 these initiatives were reported to have helped reduce the overall death rate in the general population (Government of Victoria, 1998).

The first children's hospital in Australia was the Catherine Hayes Hospital in Sydney, which opened in 1870. Similar to the U.K. and the U.S., it was built from funds raised by public appeals (New South Wales [NSW] Health Department, 2011). The precursor to the hospital was the Society for Destitute Children which, like in the U.S., was an almshouse and not designed for delivering health care. In Western Australia, the Perth Children's Hospital (PCH) – now Princess Margaret Hospital (PMH) - was opened in 1909 and was also developed after funds were raised through a public campaign. The hospital started with 20 in-patient beds and one operating theatre and, by 1925, the hospital had grown to 130 beds (McLeod, 1984).

In many countries, hospitalised adults and children were primarily cared for by their families (GOSH, 2009). In the 18th and early 19th centuries, there were very few nurses for either adults or children as nursing had yet to develop into a formal profession and women were not in the professional workforce in large numbers. Those that cared for the sick, other than for the upper classes who were cared for by servants, did not have a good public reputation (Long, 1998). These first 'carers' were depicted as careless old women, their unstructured basic care and limited training available meant there were few people who went into nursing as a profession (Long, 1998). Wald (cited in Daniels, 1989, p.19) described the public perception of nurses of the early 19th century as "Little better than lower class housemaids and no respectable woman would stoop to such work".

Thus, families served as substitutes for professional nursing staff, resulting in large family groups practically living in the hospital wards. While this arrangement worked when hospitals first opened, by the second half of the 19th century fears regarding the introduction and the spread of infection from these family carers resulted in changes in the structure of the entire hospital system (GOSH, 2009). Hospital staff, particularly physicians, associated the spread of infection with outsiders and hospital visitors. Consequently, health professionals began instituting visiting hours, primarily on Sunday afternoons as well as barring families from being on the wards as a means of containing the number of visitors within the hospital and stopping the spread of infectious disease. Over time, these operational policies were adopted world-wide and continued almost universally until the 1950s (GOSH, 2009).

2.2 Child development: The history of a developing evidence base and its impact on system reform

The differences between children and adults may be obvious in such areas as physical characteristics; for example, neonates, infants, toddlers and preschool children are all physically smaller than adults, but physical differences between adults and children become less obvious in older school aged children and adolescents. Despite the outward physical similarities, the internal organs of school aged and adolescent children have not reached full maturity. The next section of this chapter explores these differences in detail and the implications of these internal, physical differences; these implications are made evident for treatment regimes, such as their ability to metabolise medications. Implications for health policy, systems and the health workforce are highlighted.

2.2.1 Physical differences

The physical differences between children and adults have been described from universally accepted stages of neonate, infant, toddler, preschool child, school age child and adolescent (Hogan, 2007). These stages are important to understand in order to know when clinical signs at specific ages, such as the blood pressure or heart rate, are normal or abnormal.

Body proportions: The head of a neonate and infant accounts for approximately 20% of the total body surface area (TBSA), whereas an adult's head is approximately nine percent of the TBSA. Another example of different body proportions is seen in neonates, infants and young children, the legs in these age groups accounting for less of the TBSA in children than in adults. These TBSA facts are important in conditions such as burns, when fluid management is needed. In burns, the TBSA needs to be estimated and the differences in TBSA need to be accounted for because adult-based assessments are inaccurate when used in children and could result in inaccurate fluid delivery. Neonates and infants also have a greater surface area to body mass which can affect their ability to maintain body temperature. This is compounded by less subcutaneous fat and their immature body mechanisms that control shivering and sweating, and, if not taken into account, can result in hypothermia much more quickly than seen in adults (Macfarlane, 2006).

Respiration: Another example of physical differences between adults and children is that up until six weeks of age infants are obligatory nose breathers, that is they must breathe through their noses (Kopelman, 2003). In fact, some infants may primarily breathe through their noses until

they are five months old (Palmer, 2001). Nose breathing can only affect a neonate or infant's ability to breathe effectively if the nostrils become blocked for example, from a cold with mucous, which might lead to significant respiratory distress. The breathing mechanism is also different in infants and young children. Adults breathe in by the diaphragm falling in conjunction with the intercostal chest muscles lifting the rib cage. Infants and young children, up to approximately the age of six, have immature chest muscles and therefore the diaphragm is the principle muscle used for breathing (Callahan, 2009). This is important to know because anything which causes gastric distension in young children can cause the diaphragm to be upwardly displaced, thereby reducing the amount of air inhaled (Inaba & Boychuk, 2002). The authors report this scenario to be common in paediatric trauma and can be relieved by inserting a nasogastric tube to decompress the air in the stomach. Neonates and infants also have less than 10% of the number of alveoli in their lungs compared to adults (Johnson & Keogh, 2010). The amount of alveoli reaches similar numbers in the child by the age of eight but they are relatively smaller in size. This means that the respiratory reserve that young children have is limited causing them to tire easily and making them more prone to a respiratory arrest if they are unwell.

Cardiac function: Infants do not have the capacity to increase their stroke volume; that is, the amount of blood released from the left ventricle with each contraction (Shiel & Stöppler, 2008) because their myocardium is less compliant than that of adults. Thus, the only way infants can increase their cardiac output is by increasing their heart rate. However, this can also lead to exhaustion when they are not well (Macfarlane, 2006). Other factors having a significant impact on children include: blood sugar levels (BSLs) and glycogen stores, which are lower in infants and children. If they are injured or unwell the BSL can drop significantly causing starvation to the cells (Sanders, 2007).

Maturity of organs: As a result of the immaturity of their internal organs, children are at greater risk of harm in the hospital setting due to the way they metabolise medications (Kyle, 2008). Therefore, they need medications which are calculated according to the weight of the child (Kelsey & McEwing, 2008; Sredl, 2006). Knowledge of pharmacokinetics in children is needed because certain drug groups adversely affect children much more than adults (Sredl, 2006). Morphine is an example of such a drug, as it is metabolised and excreted more slowly in children, and which if not monitored appropriately will cause bradypnoea, a low breathing rate that can lead to a respiratory arrest (Hain, Miser, Devins & Wallace, 2005). It is not only pharmacokinetics in infants and children which RNs need to understand but also the added risk from fluid overload

from common hospital interventions such as intravenous (IV) therapy (London, Ladewig, Ball & Bindler, 2007). If the amount or rate of fluid given is not carefully calculated and checked against the weight/ height of the child, children can get fluid overload much more quickly than adults due to the smaller circulating volume and are at increased risk from conditions such as pulmonary or cerebral oedema (Gillespie, Seidel & Symons, 2004).

Central nervous system: As children develop physically, there is an increase in the gross and fine motor skills. Gross motor skills include walking, running and balance whilst fine motor skills include the use of hand-eye coordination such as picking up objects and drawing (Ireton, 1992). This development occurs in conjunction with the growth of the central nervous system (CNS). At birth the CNS is approximately 25% of the size of an adult. By one year of age, the CNS is approximately 50% developed and by the third birthday, the CNS is approximately 80% fully developed (Callahan, 2009; Macfarlane, 2006). Gross and fine motor development milestones are the same for all children but are achieved at different rates. While there are broad standardised parameters for learning to walk independently, various children learn to walk at different ages and stages in their own specific timeframe (Kyle, 2008). For example, on average, many children are walking with varying degrees of assistance by one year of age (Glasper & Richardson, 2011).

Children also develop their language skills at various specific points but usually, by 18 months of age, children can say simple sentences and make their needs known (Sheridan, 1985). Kylie (2008) reports that toddlers repeat words and they can understand many more words than they can say. Although young children can use and understand many words, it is still important to use age-appropriate language (Day & Levitt-Jones, 2009; Glasper & Richardson, 2011). For young children, age appropriate explanations are important as by 12 months of age, even though infants can only say approximately four words, they can understand more than 100 words (Devitt & Thain, 2011). By the age of two, toddlers can say 50 words and obviously understand many more (Sheridan, 1985). Moreover, the ability to understand language rapidly increases and between the ages of three to four, children have a vocabulary of several thousand words (Berk, 2008). Thus young children can understand some age appropriate explanations. They also have some comprehension of emotions conveyed by the tone of voice used. For example, even young toddlers can recognise emotions such as annoyance conveyed in the tone of voice an adult uses (Whitehead, 2007).

Hence, it is not only the content of what is said which is important when communicating with young children, but also the tone of voice used (London, et al., 2007). They further explain the importance of using a soothing tone coupled with age-appropriate language as this can relieve anxiety. It can also help the child understand what is required of them by the health care staff as even young toddlers respond to sound and praise when they have cooperated. Furthermore, London, et al. contend that the repetition of stories can help promote a sense of stability in unfamiliar environments such as hospital wards. Accordingly as children may be frightened by their need for health care, using appropriate language builds trust and helps the child to understand the experience of hospitalisation (Glasper & Robertson, 2011).

In addition, whereas adults can often explicitly tell nurses if they think something is amiss, young children cannot since their perception of self and their language skills may not be developed enough to identify and/ or acknowledge a change in health status. Although young children cannot always say when they are unwell or explicitly explain how or in what way they are unwell, many experienced RNs working within paediatrics undoubtedly have acquired a sound knowledge of the signs and symptoms of disease and alterations in children's vital signs. But, as Gill (2006) maintains, there is more to understanding of disease processes and the effects of treatment in paediatrics than just knowing about vital signs or stages of childhood development.

Gill (2006) reiterates the need for nurses to recognise how children and their families are affected by acute and chronic conditions and to recognise the psychological impacts that disease/ illness and treatment can have on children and their families. Even children with chronic conditions who have been hospitalised many times before need the reason for each admission to be established. Children will not necessarily relate hospital experiences with their own health but may associate them [the hospital] with a relative; this may have been fearful for them as, for example, the hospital death of a relative they may have witnessed. Therefore accurate communication with the child and the family is of vital importance (Potts & Mandleco, 2012).

In addition, RNs should be aware of the potential for increased stress on families when a child is sick. If one parent stays in hospital with a sick child and the other parent has to care for the rest of the family at home, this may affect a variety of other family attributes, such as the family's income, the relationship of the parents with any other children and the way in which parents are able to rest due to the noisy hospital environment. A child being admitted to hospital can also

have an impact upon the amount of nutrition their parents receive which in turn, can affect their parents' mood or their resilience (GOSH, 2008).

Another stressor for parents may be how best to prepare their child for any forthcoming admission to hospital. Hockenberry and Wilson (2011) illustrate how it is often left to the parents or carers to prepare children for hospitalisation yet parents often do not do this because they think the child will not understand the procedures, and/ or it will be too stressful for the child, and/ or the parents do not have sufficient understanding themselves to explain it to the child. Parents' levels of anxiety will be transmitted to their children and therefore, the more relaxed a parent is, the more relaxed their child is likely to be (Potts & Mandleco, 2012). Hence, paediatric RNs should be cognisant of all these factors and yet flexible in the face of what may appear to be 'difficult' parents or siblings. They need to try to identify ways for these stressors to be minimised. For example, the RN could develop a routine for the child patient or suggest getting an extended family member to stay with the hospitalised child (GOSH, 2008). Understanding and creatively addressing the stress families face when a child is ill can help lessen the burden for families when they have a sick child who needs in-patient care.

Acquiring a sophisticated understanding of child physical and psycho-social development, including language, cognitive, behavioural and moral development, is important for paediatric RNs. Attainment of this knowledge not only facilitates detection of any abnormalities in development (Sheridan, 1985) but helps ensure that children are kept as safe as is possible from the risk of acquiring other illnesses whilst in the hospital (Hockenberry & Wilson, 2011). There are a variety of theories which help explain these concepts.

2.2.2 The growing recognition of the psychological and social needs of children in hospitals

During the 100 years after the establishment of the first children's hospitals, little attention was paid to children's psychological and social needs. For most of the latter half of the 19th and the first half of the 20th century, paediatric hospital wards throughout the world created policies and procedures for managing children that were designed to keep them quiet and 'well behaved' as patients (Bulford et al., 1990; Jolley, 2006; Wood, 2008). The management of the wards was based on the goal of efficiency with scant regard for children's developmental or social needs. If children did not comply with the ward rules, they were sometimes tied to their beds. If children were unsettled or cried for their families, they were sometimes isolated (Markel, 2008). In

addition, it was thought that the visits of parents caused emotional anxiety and therefore restricted parental contact with them in the belief that this would reduce the children's stress (Kyle, 2008).

By the 1950s, this treatment of children in hospital was increasingly recognised as tyrannical and detrimental to their health. In addition, with the development of psychiatry and psychology, human development and psychosocial needs were being identified and studied. This was highlighted in *The Welfare of Children in Hospital* (Platt Report, 1959) which stated that health care staff (nurses and doctors) needed to be educated in the psychological and emotional needs of children (Bradely, 2003; Briggs, 1966). The drive to address the psychological needs of children in hospital gained impetus throughout the 1950s and was driven by health care professionals such as Bowlby, (1951), Robertson (1952, 1958), Prugh, Staub, Sands, Kirschbaum and Lenihan (1953). The results of research undertaken by the aforementioned led to a general consensus that if children primarily under the age of five were separated from their parents during a hospital admission, they would suffer long term emotional disturbances these being still evident six months after discharge. In a review of this work, Briggs (1966) concluded that the only way to prevent this damage was by allowing parents, primarily the mother, to stay with young children throughout their hospital admission to prevent long term emotional and behavioural disturbances. The research was also used by Robertson (1958) to reinforce his theory of separation anxiety and in the formation of Bowlby's (1958) child development theory of attachment which examined the bond between parents and children. However, this by no means the only, or indeed the earliest, child development theory.

2.2.3 Child development theories

Child development relates to how a child functions and how well they can adapt to their environment in relation to a standard and is not related to chronological age (Hogan, White, Falkenstein & Brancato, 2007). Child development has been recognised for centuries but until the beginning of the 20th century, it focussed mainly upon virtues and characteristic that children would learn (Child Development Media, 2008). In the early part of the century, Sigmund Freud (cited in Rathus, 2006, p. 7) included children as part of his development theory of the human personality (Berk, 2003; Thornton, 2010). Although Freud's theory focussed upon mental health, his psychoanalytical theory was further developed by Erikson (1963). Other major child development theories are behavioural and social learning theories (Bandura, 1986; Skinner, 1971; Watson, 1930) and cognitive theory (Piaget, 1977; Vygotsky, 1930). These theories are

discussed in greater detail below. In the present day, the psychological and social aspects of child development are now seen as essential for effective paediatric nursing care and should be part of paediatric RN education (Hockenberry & Wilson, 2011; Pillitteri, 2009).

Although young people grow and reach physical maturity by their teen years, physical growth is different to psychological development (Klossner & Hatfield, 2006). Physical growth is an increase in height and weight and occurs at a cellular level (Potts & Mandelco, 2007).

Psychological development does not always match the child's chronological age or physiological development. Developmental age relates to how a child functions and how well they can adapt to their environment in relation to a standard (Hogan, et al., 2007). Although the 'standard' is not set at a fixed age, by certain ages, children should have reached a certain developmental stage, both physically and psychologically. These stages are referred to as 'developmental milestones'. Therefore, all health professionals working with children should be familiar with developmental milestones (Cook & Cook, 2007; Sheridan, 1985) because a child's emotional wellbeing and future development will be strongly influenced by their achievement, or non-achievement, of these milestones.

Child developmental theories which encompass psychological development are also important to paediatric nursing care. This is because in-depth knowledge of the psycho-social developmental stages is imperative in understanding how children may react and respond within health care settings (Hockenberry, Wilson, Winklestein & Kline, 2003; Klossner & Hatfield, 2006; London et al. 2007). Various theoretical themes have emerged in the field of child development, one of the earliest being Psychoanalytical Theory. Two of the most prominent psychoanalytical child developmental theorists were Sigmund Freud and Erik Erikson (Cook & Cook 2007). Although they shaped child development in the last century and more relevant theories have been developed which are now considered more contemporary, these two theorists have dominated both child and adult development for the last 150 years. Despite the new approaches to child development, Cook and Cook (2007) argue that Freud and Erikson's theories are still effectively being used by therapists working with children who have behaviour problems. Therefore it is pertinent to describe their theories of development briefly.

Psychosexual and psychosocial theorists -

Sigmund Freud: Freud's theory of psychosexual development is perhaps the best known child development theory. Freud based much of his theory on sexual and aggressive

instincts identifying stages which he theorised children need to go through to mature physically and psychologically into healthy adults. These are: the oral stage from birth to one year; the anal stage from one to three years; the phallic stage from three to six years; the latency stage from six to 12 years; and the genital stage from 12 years and older (Shafer & Kipp, 2007; Hockenberry, Wilson & Winkelstein, 2007). Freud focused attention on early childhood experiences that affect adulthood. Even today, developmental psychologists agree that early childhood experiences can affect later development (Shafer & Kipp, 2007).

Erik Erikson: Although not as well known as Freud, arguably the most widely accepted theory of personality comes from one of his students, Erik Erikson, who developed a psychosocial theory (Hockenberry et al., 2007). Erikson based his theory on Freudian theory involving the biological or instinctual urges at critical ages or phases of development. He argued that children will respond or adapt to their environment rather than being driven solely by biological urges (Shafer & Kipp, 2007). Like Freud, Erikson suggested there to be various developmental stages through which children progress. In particular, Erikson hypothesised about 'developmental tasks' pertaining to development stages of childhood, and that mastery of such tasks marks the progression from one developmental phase to another. If the task is mastered, then there is a positive psychosocial outcome and the child can move to the next stage; if it is not mastered, there is a negative or unhealthy outcome and the child may experience some psychological problems later in life (Klossener & Hatfield, 2006; Hockenberry et al., 2007). Erikson was not rigid in his hypothesis of stages of development, tasks being mastered at a later developmental stage (Potts & Mandelco, 2007).

Although Freud's and Erikson's theories are not used in the care and management of children in hospital, it is argued that they may be used by therapists to educate parents to manage their child's sexual and aggressive drives and their temperaments as they grow and develop (Bowden & Greenberg, 2010).

There are many other child developmental theories which were generated in the 20th century including Behaviourism, Cognitive-Intellectual Development, Social Learning Theories and Humanistic Theories. The major theorists are briefly discussed below.

Behaviourism: Behaviourism was developed in the U.S. by John Watson early in the 20th century. Watson (1930) argued that focusing on observable behaviour only made development theory more scientific (Rathus, 2006). He contended that parenting traditions of the early 20th century were causing children to grow up emotionally weak. He averred that children should be brought up as young adults. The underlying principle of this theory is that behaviour is influenced by experience and/ or the environment. If the experience/ environment is altered, then behavioural changes are noted. Thus, if a child does not do as the parents demand, placing them in a dark room will teach the child to act in the way in which they are required to in order to avoid the dark room (Bowden & Greenberg, 2010). Watson also explored Classical Conditioning, where a type of behaviour receives a certain positive or negative response. Perhaps the most notorious example of this was the “Little Albert” experiment in which an 11-month old boy was exposed to a white rat. The infant initially was encouraged to play with the rat. Watson then made a loud noise each time the infant went to touch the rat evoking distress in the child. Quite soon, the same distress was seen when the rat was just brought into the room. The infant was said to have been conditioned.

Operant Conditioning: Burrhus Skinner was also a behaviourist who developed the theory of operant conditioning and introduced the concept of reinforcing behaviour. From a child development perspective, praising what is seen as good behaviour and punishing what is seen as unacceptable behaviour are major tenets of operant conditioning. The idea is that adults praise the child and therefore the child will repeat the desired behaviour (Rathus, 2006). Problems may occur if a child does not get this positive reinforcement for ‘good’ behaviour but gets negative attention whenever they are naughty or display undesirable behaviour. This is operant conditioning as the child is “operating” on their environment (Cook & Cook, 2007).

Cognitive-Intellectual Theory: This theory was first developed by Jean Piaget (1952), his theory of cognitive development describing how intelligence is developed, and propounding that all children move through the same intellectual stages but at their own pace (Klossener & Hatfield, 2006). Piaget claimed infants have no inborn knowledge so they actively construct new understandings from what they have experienced (Shafer & Kipp, 2007). The stages of cognitive development are: sensorimotor from birth to two years; preoperational from two to seven years; concrete operations from seven to 11 years; and formal operations for older than 11 years of age (Klossener & Hatfield, 2006; Piaget 1952).

Piaget's theory had an impact on education in primary schools because it was thought that it is better to learn by discovery since children do not "think like adults" (Shafer & Kipp, 2007). Critics of Piaget claim he underestimated children's intellectual capabilities and performance, as a child can dramatically improve any deficits with enhanced training programs (Shafer & Kipp, 2007). An application of this theory in paediatrics has been that children with some degree of developmental delay can be helped to achieve their potential through training. Bowden and Greenberg (2010) argue that Piaget's theory is still used in RN education to highlight how children may perceive and understand health related events.

Other Theories: Of the many other theories, some argue that pure behaviour will shape development, such as Watson's Behaviourism (Shaffer & Kipp, 2007). However, more contemporary developmental theories suggest that much of children's learning occurs by observing role models such as parents or teachers (Bandura, Barbaranelli, Vittorio, Caprara, & Pastorelli, 2001). In the case of sick children, this may include RNs. Bandura et al. (2001) referred to this as "modelling" and examples of this include a child hitting other people may be based on watching his role model(s) hitting someone. Alternatively, they contend, generous behaviour may be based on the child observing their role models being generous. Bee and Boyd (2007) stress that behaviour does not need to be voiced by the child's role model, and therefore this bridges the gap between learning theory and cognitive development theory. They give the example of modelling being a platform for the child to learn abstract information.

Behaviourism (Skinner's and Watson's theories) may still be of use in paediatrics. For example, in children with learning disabilities, positive reinforcement can help achieve desired behaviours (London et al., 2007), but it is less likely to be included in paediatric RNs' education. Bandura's (1986) theory of social learning is also used to reinforce desirable behaviour in children but, the desirable behaviour is achieved by socialising children together. For example, Banda suggests that if a child sees another child cooperating during a procedure and the child is praised, this is likely to reinforce that such behaviour is what health professionals' desire in other children.

Regardless of which theory one chooses, the physical and psychological development of children is important for RNs to understand, as are how changes in a child's environment, such as becoming sick enough to be hospitalised, may affect a child. Developmentally appropriate techniques are used to reduce potential anxiety and the fear that children experience when they are admitted to hospital (Glasper & Richardson, 2011). A principle skill used is distraction

techniques which are developmentally focused to help engage children and raise their coping skills (Webster, 2000). Although often associated with pain management, they include using language and demonstrations so that children may learn more about the reason they are in hospital and their illness/ condition; this is effective in increasing children's compliance in their own health care (Glasper & Richardson, 2011). Tate, Meeuwesen, Elbers and Bensing (2002) reported that if children are involved in their own care, they are more willing to cooperate and have better health outcomes.

One of the most important issues with which clinicians deal with regarding hospitalised children is the separation of the child from its parents. Thus hospitalisation, medical treatment, and the separation of the child from the home and family can affect childhood development. The next section describes in more detail the impact of the practices of the 19th and early 20th centuries of separating children from their parents during hospital admission. Longer term effects of separation anxiety seem to have been dramatically reduced but they can still be observed when children and principle caregiver(s) are separated from each other.

2.3 Separation anxiety and managing children in hospital

The infection control policies in hospitals in the late 19th and early 20th centuries meant that children were often only allowed a family visit once or twice per week (see Section 2.1) and parents were not allowed to stay with their children (Jolley, 2006; Kyle, 2008; Markel, 2008; Piercey, 2002; Wilson, 2004).

This chapter has highlighted the link between developmental milestones and a child's emotional well being, the latter being undoubtedly a major influence on optimal growth and facilitating a successful progression to maturity (Cassidy, Parke, Butkovsky & Braungart, 1992; Cook & Cook, 2007). Emotional well-being is an important concept for this study, because if the emotional needs of children are not recognised, they may be vulnerable to psychological disturbance as a result of the hospital admission. Related to this, albeit untested, is the belief that RNs caring for children in hospital should have specialist education, training and skills so as to meet the needs of children in hospital (Association for the Well Being of Children in Healthcare [AWCH], 2008; Chesson, 1998; European Association for Children in Hospital [EACH], 2006). For the purposes of this thesis, emotional well-being is defined as the ability of a child to develop and live in harmony with their family and others, and be adaptable to change (NSW Health, 2007).

The concept of emotional well-being in paediatrics was not considered as important by medical or nursing staff until the middle of the 20th century, yet children have historically displayed negative emotional responses to hospitalisation since the first paediatric hospitals were opened (Bowlby, Ainsworth, Boston & Rosenbluth 1956; Bowlby & Robertson 1952). This negative emotional response to hospitalisation has been identified by experts (Bowlby, 1951; Prugh, et al., 1953; Robertson, 1958) as a fear response in the child upon separation from their family, that is, separation anxiety (Robertson & Bowlby, 1953; Robertson & Robertson, 1952). Separation anxiety occurs when older infants and toddlers become quite distressed when their parents/ caregiver[s] are not with them (Kyle, 2008). Separation anxiety has three phases:

- **Protest** – this may occur immediately when the child is separated from its parent such as the parent having to leave or being asked not to accompany a child during a procedure. The behaviour the child exhibits is anger or crying and trying to get away from the hospital staff (Robertson, 1970). Bowlby (1973) described this as the child protesting for re-attachment to the parent.
- **Despair** – if the separation continues, the child becomes increasingly sad but as time progresses the child displays less distress and may become withdrawn. If the parent returns, the child may initially reject them or may cling to them (Robertson, 1970).
- **Denial (detachment)** – if the parent does not return, the child starts to show more interest in their surroundings and appears to be friendlier toward staff. The child may ignore the parent when they visit. The child may not engage with other children but play on their own (Bowden & Greenberg, 2010).

Markel (2008) describes how, in some U.S. hospitals, children were moved to isolation wards if they displayed any of the above phases of separation anxiety, such as crying too much. These institutional responses to children's displays of separation anxiety often resulted in even harsher punishments, such as fewer or no visitors. However, as we now recognise, these efforts to control children in hospital had a negative effect (Jolley, 2006; Wood, 2008).

These methods of managing, or not addressing children's psychological and emotional needs were practised in the U.S., the U.K. and Australia up to the 1950s. This behaviour for managing children in the medical setting did not seem to have been implemented out of cruelty, but rather

as a result of the 'efficiency practices of the time (Jolley, 2006), and the then widely-accepted practice of psychological care devised by the behaviourist, John Watson (1925).

Watson (1925) argued that if children were repeatedly given a specific response to behaviour, especially negative reinforcers to perceived negative behaviour, they would learn not to exhibit the behaviour. Watson seemed to have had a significant influence on child care in the 20th century (Adler, 1928 cited in Simpson, 2000; Field, 2001). Watson advocated to parents that kissing, hugging or letting children sit on their knees was not a sensible way to treat them (Watson & Watson, 1928). He also argued that parents should rotate their care with nurses because family life was affecting the individuality of children (Simpson, 2000). Elkind (cited in Senn, 1975, p. 26) stated that Watson's approach to psychology "... reflected a new strict approach to science ..." in the 1920s and consequently, Watson's theories were being taught to paediatricians in the U.S. as a way of managing children's behaviour (Senn, 1975). The teaching of Watson's theories of child behaviour was not restricted to the U.S., hospitals around the world adopting a more stringent regimen to control hospitalised children well into the 1950s (WHO, 1955). As the hierarchy of health management of children in hospitals lay with doctors, this undoubtedly steered nursing care and practices (WHO, 1955). Thus, behaviourism has had a significant impact upon nursing children in hospital.

Another affect of behaviourism was seen in separation anxiety. For example, it was believed that if a child was isolated from their parents and they were left alone when they expressed distress, they would soon become easier to manage, especially since the child eventually appeared to show less 'overt' distress. Children exhibiting detachment were described as being 'settled in' (Shields & Nixon, 1998). The wards with 'settled in' children were quiet, orderly and happy, which made nursing and medical care easier to deliver by staff. Paradoxically, when the parent did visit, the child would not always ignore them but become distressed (Robertson, 1970). Robertson explained that these children were so distressed by their separation from their parents that when they were visited, the children would release all their pent up grief and frustration at their parents. Consequently, he concluded it was not the visits that caused the distress in these children but rather the chance to express their 'pent-up misery' from having to be 'settled in'.

Other examples of this behaviour have been reported by Jolley and Shields (2009) derived from interviews of adults who, as children, had been in hospital between World War I and II in the U.K. The adults reported that it seemed the "nursing staff did not care ..." [about children] when

discussing how hospital staff had treated them. For example, Jolley and Shields (2006) recount the experience of a children's RN in the 1950s trying to comfort a distraught child. As the RN went to pick up the child up from the cot, a senior colleague demonstrated how crying children should be dealt with. The senior RN fastened the child into the cot and the child was left to scream. They argue the desire to show 'professionalism' or the standard in the nursing training prevented RNs from showing emotion or caring toward child patients.

Australian hospitals followed a similar pattern to the U.K. and the U.S. by not allowing parents to visit their children other than for short designated periods of time (Wood, 2008). Wood reports similar experiences from Australia through interviews with adults who had been admitted to hospital as children: "... children were well behaved [because] they were tied into their beds, so that busy RNs could keep track of them" (p.119). The author describes other examples of the similarities between the U.K. and Australian paediatric patients at that time: "To me the sister said 'that's enough now, big girls don't cry.' (I was three and a half.) 'You want to get better don't you?' But my medical records show it was days before I stopped crying ..." (p.122). Using such phrases such as "you are being a baby" or "you need to be brave" in an attempt to get children to cooperate is not useful. Quiet, 'good' children, shamed into 'being brave' are not exhibiting a normal reaction (Pilliteri, 2007, p.1080).

Two notable examples were exceptions to the policy of excluding parents from caring for their hospitalised children in the mid 20th century. One example occurred in Newcastle in the north of England where mothers were admitted with their sick children to hospital, the rationale being that the mothers would help nurse their children back to health (Spence, 1947). The other example happened in Wellington, New Zealand where Pickerill and Pickerill (1946) found 'excellent results' after paediatric surgery if mothers were admitted with their children. In paediatrics in the late 20th and early 21st century, these innovations are now accepted practice, but in the 1940s the popular belief was that children were better off without their parents (Jensen & Comly 1948; Skipper 1966).

Much of the research literature indicates that the care infants and children received in their formative years has had a long-lasting effect on them (Bowlby & Robertson, 1953; Jolley, 2006; Shore, 2003; Wood, 2006). However, there is a great deal of controversy in the field concerning the specifics of what exactly could be negative influences. In particular, controversy surrounds the issue of parental separation. Even in the 21st century, children are sometimes separated from

their families during certain medical procedures, such as the insertion of intravenous (IV) devices, suturing and other medical or nursing procedures. These are examples of current hospital policy or practices potentially causing distress to children. Well meaning RNs or doctors have suggested to parents they should not accompany their child into the treatment room because the parent may find it distressing (Personal observations between 1990 and 2010). The rationale often given is that when the procedure is completed, the distressed child can be comforted by the parent.

The potential for long lasting effects of early childhood experiences is being examined by some state and territory governments within Australia. It is increasingly becoming an accepted practice that increasing resources in early childhood are likely to improve not only behavioural problems but the health and social outcomes for children. For example, the governments of Queensland, Western Australia, Northern Territory, NSW and Tasmania have acquired the Positive Parenting Program,” developed in the latter part of the 20th century (Sanders, 1999) at the University of Queensland. This program is designed to improve the social outcomes for children by preventing ‘negative’ early experiences and helping families with modification of children’s problem behaviour (Sanders, Shepherd, Cleghorn & Woolford, 1993).

As discussed, separation anxiety has been recognised for many years (Hockenberry & Wilson 2011; Jolly, 2009; Robertson & Bowlby, 1953; Robertson & Robertson, 1952; WHO, 1955). The only effective way to avoid this condition is to admit parents or principle care givers with children when they need hospitalisation (Briggs, 1966). Although primarily seen in the ‘under five’ age group, it may be observed in older children. Even though children appear to be less bothered over a period of time of not seeing their parents in hospital, they will be still be distressed at being separated from their carers (Shields & Nixon, 1998). Positive reinforcement may be used in an attempt to get children to comply with certain tasks but it is not necessarily effective in reducing the stress children exhibit at being separated from their parents (London et al., 2007). To minimise any negative effects of hospitalisation, not only should parents be admitted with their child but they should be encouraged to participate in parts of the child’s care (Klossner & Hatfield, 2006; WHO, 1955). This philosophy of a collaborative partnership involving carers and the hospital is known as family centred care (Kyle, 2008).

2.4 Family centred care

Shields, Pratt and Hunter (2006) define family centred care (FCC) as a way of caring for children and their families who are receiving health care which is focused on the needs and desires of the child (patient) and family. This involves the whole family in the planning, goal setting, delivery and decision-making around care. The Australian College of Paediatric and Child Health Nurses (2006) describe FCC as “A model of nursing practice which focuses on the individual/ child as the client in the context of the family” (p.10).

FCC emerged from changes in medical and health care practices for all patients since the 19th and early 20th centuries. In Australia and the U.K. the publication of the Platt Report in 1959 had a significant impact on paediatric nursing (HMSO, 1959). The recommendations of the Platt report were to allow the unrestricted visiting of parents and allowing mothers to stay in hospital with their child. However; this transition from almost total exclusion of parents to involving them in all aspect of care was slow to be implemented (Palmer, 1993). An example of this slow implementation came from Chester, the founder of the Australian Association of the Welfare of Children in Hospital (AWCH), who recalled the experiences she had in 1969 when her son was admitted to hospital: “I had not been welcome by the senior staff, but the ward staff accepted me and knew that the presence of other parents would have been of great value” (Chester, 1983 p.ii). Despite the apparent reluctance of some senior RNs to embrace parents in the care of their child, FCC has become a cornerstone of paediatrics (Shields et al. 2006). FCC involving the needs of the child and their families has been given other labels such as Care-by-Parent (James & Wheeler, 1969; Palmer, 1993; Sainsbury, Gray, Cleary, Davies & Rowlandson, 1986), Negotiated Care (Smith, 1995) and Partnership in Care (Casey, 1988). But all of the aforementioned include the health needs of a child and to a greater or lesser degree, the involvement this has by the child’s family.

One other method used to involve many families in their child’s care and lessen the impact of hospitalisation commences before the actual admission; these are pre-admission programs. These programs are for children who have a planned admission, usually for surgery, for them to attend the hospital several days prior to being admitted. The children and their families are shown the various areas and wards they will be in, including parts of the operating theatre complex. The pre-admission programs help meet the emotional needs of children and their families prior to the child being admitted (Glasper & Richardson, 2011). The children and families are shown equipment with which they are encouraged to handle and play. They are shown the

surgical gowns which help reduce children's fear when they are in the theatre (Hockenberry & Wilson, 2011; London, et al., 2007). The preadmission programs provide some insight to children as to what they may experience. Children generally feel less fearful when they know what to expect as knowledge lessens their fears (Hockenberry & Wilson, 2011). These authors assert that if RNs inform children of what they can expect in an age appropriate manner, it helps reduce the lack of power children experience at admission.

A great deal of evidence documents the benefits from all aspects of FCC (Coyne, 2006; Drew, Nathan & Hall, 2002; Hockenberry & Wilson, 2011; Glasper & Richardson, 2011; London, et al., 2007; Young, et al., 2006; Weller, 1986). For example, children's pain appears to be managed more effectively when families are involved in distraction of the child whilst health professionals administer medications (Broome, 2000; Liossi, White & Hatira, 2006). Cancer treatments are more effective if families are involved by being supportive of their child's treatment, for example, if they listened to their child about the disease or if they reported the affects of their child's medication to their oncology team (Manne, et al., 1990). Kristensson-Hallström, Elander and Malmforss (1997) have suggested that children recover more quickly from day surgery when families are fully involved in all aspects of their nursing including post-operative care.

Families are an integral part of nursing children when they need health care and paediatric RNs need to understand that FCC boosts family's confidence to have the skills to care for their child's future health needs (Kyle, 2008). Thus families need to be involved the whole time their child needs any health intervention. However, the involvement needs to be negotiated with the families so that they do not become overwhelmed with the care of their child (Coyne, 2007; Kelly, 2007). Indeed, FCC is recognised in the literature as integral to high quality care in paediatric nursing. The Australian Nursing and Midwifery Council (ANMC) states that RNs working within specific populations should develop their professional practice in accordance with the needs of the population and have a role in improving quality of care (ANMC, 2005).

This chapter has reviewed literature concerned with the history of child care and children's physical, psychological and social needs, including child development theories. The history of paediatrics illuminates that in health care the uniqueness of children has not always been recognised and expounds that this lack of recognition may be detrimental to their wellbeing. The following chapter reviews the pertinent literature regarding the development of paediatric nursing and how RN education has evolved, particularly in the Australian policy context.

Chapter Three: The development of paediatric nursing

3.0 Introduction

"I commence by stating two propositions: first, that sick children require special Nursing [sic]; and second, that sick children's Nurses [sic] require special training" (Wood, 1888).

Chapter Two examined the history of paediatric health care since the early part of the 19th century through to the present day. It also described the growing recognition of the unique needs of children, based on the growing evidence base of leading child theorists. This chapter will build on the previous chapter by exploring the effect of emerging policies on paediatric nursing in the 21st century, particularly in Australia, and will highlight how research has influenced system developments in the care and management of sick children and their families. The literature is used to develop a framework for paediatric RN education that will guide the research project.

Accordingly, this chapter examines selected literature relating to paediatric nursing and paediatric RN education to discuss specifically children-focussed nursing care developments in both Australia and other developed countries. It includes their documented impact on children and their families. It presents reasons why children's nursing is now a speciality in some countries, while in others it is either only an emerging concept or not recognised at all. In addition, quality in health care is explored specifically focusing on how quality relates to the level of education/ training of children's RNs.

3.1 Brief history of nurses' clinical education and training

Chapter Two discussed the manner in which the in-patient hospital care of children has changed since the middle of the 19th century in the United States of America (U.S.), the United Kingdom (U.K.) and Australia. It described how local developments impacted at an international level, for example, Great Ormond St Hospital (GOSH) for children influenced the opening of children's hospitals in the U.S. (Potts, & Mandelco, 2012). The authors maintain the development of paediatric nurse education was associated with historical and international changes to children's health care and nursing. Before describing the changes to paediatric RN education in Australia, it is pertinent to explain the influence of some changes in the U.K. and the U.S. For example, the

U.S. had university based RN education prior to Australia and the U.K. hence the next section begins with a brief description of tertiary RN education in the U.S.

3.1.1 Nurse education in the U.S.

In the U.S., university based RN education programs had been set up as early as 1899 but this was directed at nurse leaders with a focus on hospital economics and not for clinicians. The first documented clinical course leading to a degree in general nursing began in 1916 at the Columbia University in New York (Parietti, 1979). Prior to this, the Teachers' College of Columbia University offered a non-degree level professional course in paediatric nursing (Kyle, 2008). But, unlike nursing, paediatrics in the U.S. was deemed to be a distinct branch of medicine. By the beginning of the 20th century, there were ten schools of medicine across the U.S. with full-time paediatricians as faculty (Connolly, 2005). However, paediatric nursing as an academic field was slow to develop and RNs were more likely to read literature written by doctors (Parr, 1980) as there were limited texts specifically for nurses. Although Florence Nightingale, the founder of modern nursing (O'Dell, 1966), had alluded to nursing children being different to adults, the first paediatric nursing text was published in 1923 in the U.S. (Connolly, 2005). Although the difference between nursing children and nursing adults was emerging, advocates for paediatric nursing did not make as lasting and transformative change as the impact of the growing knowledge about infectious diseases with its isolation of those infected. Possibly the biggest influence on paediatric nursing and medical practice occurred following the greater understanding of bacteria, nutrition and sanitation (Connolly, 2005; Kyle, 2008). By the early part of the 20th century, the need to isolate children with infectious diseases was recognised as a necessary element of treatment to stop the spread of the disease, this leading to a decrease in the number of children being admitted to hospital for purely social reasons. Moreover, the new knowledge regarding infectious disease reinforced the belief that visitors to the hospital increased the risk of infections. This also meant that families were barred from visiting their sick child and the nurses caring for children with infectious diseases were often isolated to prevent the spread of infection because antibiotics were not available until the 1940s (Goostray, 1950). The policy to isolate infectious adult and paediatric patients, failed to consider the psychosocial needs of children as many displayed negative emotional responses to hospitalisation (Jolley, 2006; Wood, 2008).

World War II (WWII) also had a significant impact on nursing, which resulted in a huge demand for trained RNs. By the time the war ended, RN education, including paediatrics, was being delivered in hospitals by doctors or senior RNs and complemented by on-the-job training (Kolar,

Wilkerson & Northington, 2001). There was also a shortage of all types of doctors and this continued throughout the 1950s and into the 1960s due to the general workforce shortage caused in part by the Vietnam War (Wilson, 2003). To address the shortage of doctors with experience in paediatrics, RNs were trained as paediatric RN practitioners (NPs) (Bowden, 2000). An RN qualified as a NP could assess, diagnose and treat children. This development was followed by the introduction of neonatal RN practitioners in the 1970s (Brush & Capezuti, 1996).

What's more, in the 1970s, paediatric nurse graduate programs became established in universities throughout the U.S. following publications of research about child development and families by Spitz (1945), Bowlby (1952), Robertson (1955), and the publication of the Report of the Committee on the Welfare of Children in Hospital (Platt Report [HMSO, 1959]). The latter also drew attention to the potential harm of separation anxiety (Potts & Mandleco, 2012).

3.1.2 Nurse education in the U.K.

In the U.K., the Registered Sick Children's Nurse (RSCN) qualification was introduced as a three year 'direct entry' nursing course specialising in paediatrics in the 1920s (Bendall & Raybould, 1969). Although Florence Nightingale established training for nurses working with adults in 1860, children's nurse training predates this as in 1854, Charles West MD, the founding father of GOSH, published his book 'How to Care for Sick Children' which was undoubtedly the foundation text for nurse training (Bradley, 2003). By the 21st century, the related literature concluded that paediatric RNs should be educated in the physical, psychological and social needs of children. Bradley (2003) differentiates between the informal training offered at GOSH, and the formal training school established in 1878 after the publication of 'How to Care for Sick Children'. As the development and construction of other children's hospitals progressed, each hospital developed its own version of a paediatric RN training program, each differing in length and intensity. Consequently, early paediatric RN education was inconsistent across hospitals and often inadequate in scope (Swanwick & Barlow, 1994). Thus children's RN training programs were being delivered, albeit inconsistently, but after the 'Nurses Act' of 1919 was passed and the General Nursing Council of England and Wales (GNC¹) established, paediatric nursing's inclusion in the curriculum was blocked by The College of Nursing and The British Nurses' Association, backed by their medical colleagues, from inclusion to the register. This resulted in RNs who were

¹ The GNC was responsible for the statutory training of nurses (Calder, 1974).

trained in paediatrics, but not adults, being put on a supplementary section of the register (Glasper & Charles-Edwards, 2002). The GNC aimed to formalise nurse training and examinations, which focussed upon adult nursing, at a national level and move the RSCN to a postgraduate qualification (Bendall & Raybauld, 1969). Therefore, the main part of the RNs register, which was maintained by the GNC, would compromise those trained in general (adult) nursing ('Part One' of the register) and specialty areas would be on the supplementary parts of the register, RSCN being 'Part Eight'.

Even though there was no recommendation or requirement to complete formal children's RN training to be able to practice within paediatrics, moving the RSCN to a post registration qualification was seen as a threat to the RSCN qualification because the specialty was likely to attract fewer applicants. The rationale was that RNs wanting to work with children would first undertake the general nurse training, then complete the RSCN resulting in a lengthier process. Moncrieff (1944) argued against moving the course to post registration maintaining that paediatrics was not a speciality but general nursing within a specialist age group (Bradley, 2003). However, there was still no requirement to have undertaken any nurse education or training in the nursing care of children.

In 1959, the publication of the Platt Report (HMSO, 1959) brought about a government policy directive that significantly impacted paediatric RN education. The edict required that the 'Sister' in charge of the area should have the RSCN qualification and that all RNs, doctors and ancillary staff should be trained in the emotional needs of children (Jolley, n.d.). Although this was interpreted by many as 'all RNs' working with children should have the RSCN, the Platt Report advocated only the Sister in Charge have the related training (Smith & Long, 2002). The recommendations were endorsed by the U.K. Government but not all professionals agreed, including some RNs. Several decades later, the U.K. government was still trying to implement the recommendations of the Platt Report, in particular, that RNs working with children should receive specific training in paediatrics. This, and subsequent government reports recommended that ward sisters and senior RNs working with children should have completed the RSCN course and, in addition, they should also have completed the State Registered Nursing (SRN) course. This was not a new initiative; in the latter part of the 19th century, Wood (1888) argued for the specific training of nurses working with children. Moreover, two years prior to the publication of the Platt Report, Illingworth (1957) called for nurses and others to comfort child patients and that they should talk to them. Illingworth also argued nurses should be trained in aspects of children's

behaviour to improve the care being provided to these patients. Regardless of these proposals, by the 1990s, the Platt Report's recommendations needed to be reiterated by several subsequent U.K. government papers such as the Court Report (HMSO, 1976) and The Welfare of Children and Young People in Hospital, (HMSO 1991). Both these papers reported that many of the Platt Report recommendations had been either slow in being implemented or were not being implemented at all (Department of Health, U.K. [DoH, U.K.], 1991). This was found to be the case again in 2004 when the U.K. Government mandated that nurses working within paediatrics should be appropriately trained (DoH, U.K., 2004).

Although there have been arguments against specialisation in the U.K., (Smith & Long, 2002; UKCC, 1999). For example, children no longer spend as much time as an in-patient so the perception is that they no longer need specialist nursing care. In spite of the prevailing negativism, in 2004 the U.K. Government produced policy directives in the National Services Framework for Children and Young People Who Are Ill.

...in the medium-term ... need to develop externally validated, competency-based, accredited training for these staff. In the long-term... need to ensure accurate workforce planning and education ... to meet the need for children trained staff across all areas... where children and young people receive care and treatment.

(DoH, U.K., 2004, p.38)

In 2008, the Nursing and Midwifery Council [U.K.] (NMC) clarified what paediatric nurse education should entail:

Children's nurses have specialist training to care for children. They are educated in children's physical, cognitive and emotional development and take account of children's developmental stages in these areas in their practice. They know that the needs of children and young people change over time and that they develop the skills and abilities to become increasingly involved in their care. Children's nurses also know that communication in all forms is vital to enable this to happen and to reduce fear and anxiety for the child/ young person and for their parents.

(NMC, 2008a, Section 2.3)

3.1.3 Nurse education in Australia

A similar pattern emerged in Australia. For example, RNs working at the Perth Children's Hospital in Western Australia received no formal training until 1921 when the Nurses' Registration Board in Western Australia recognised the Children's Hospital as a training school for RNs. This was in keeping with trends in the U.K. and the U.S. The Perth Children's Hospital training school was designed to prepare nurses to care for sick children; thus, the nurse training was specifically in children's nursing (McLeod, 1984). However, McLeod reveals that, in 1927 the status of the

training school was changed to that of a general nurse training school. While the exact reasons this change occurred are not clear, this may have been implemented to gain the maximum use from the limited resources due to the relatively small population of Western Australia. Whatever the reason, with a changing emphasis from paediatric nurse education to a more generalist education, the focus shifted from paediatrics to general nursing for people of all ages and effectively ended paediatric specialist education in Western Australia (McLeod, 1984). This situation for RN education lasted well into the 1980s. Commonwealth Government policy was to transfer all RN education and training from being hospital based to the tertiary sector and although 60 students per annum continued to be enrolled in these specialised courses, by 1988, specialised children's nurse training at a pre-registration level ceased to be offered in Western Australia (Princess Margaret Hospital, 1988). Ultimately, RN education was moved to university based education between 1984 and 1994 (Department of Education Science and Training [DEST], 2002; Reid, 1994).

The change to tertiary-based RN education in Australia began in the 1930s and 1940s as a result of concerns by the Commonwealth Government of Australia and of the state and territory governments about the problem of high nurse attrition and challenges to nurse recruitment across Australia (Sax, 1978). Other issues, such as students being used as part of the workforce, were also a concern. According to Sax these concerns led to the publication of The Kelly Report in 1943 which suggested RN education should be reformed to address the attrition rate in nursing numbers. The Kelly Report also suggested plans should be made for the long term future of RN education, but these recommendations were not addressed at that time probably due to WWII (Sax, 1978). Following WWII, there were several reviews of RN education which suggested the transfer of nurse education to the tertiary sector, namely:

- The Martin Report (1964) advocated that advanced RN education needed to be implemented. These recommendations were reiterated by Chittick in 1968 (Sax, 1978).
- New South Wales, Victorian and Australian Capital Territory [ACT] State Inquiries [1970 (DEST, 2002)].
- The Sax Report (1978) unambiguously advocated that RN education be centralised and moved from hospital based training.

The above recommendations stemming from these reports resulted in the Commonwealth Government of Australia's policy directive (1984) instructing that that all pre-registration nurse

training should be transferred from hospital schools of nursing to education in universities before 31st December 1993 (DEST, 2002). Some schools of nursing closed by the end of the 1980s including in the aforementioned end to pre-registration specialist paediatric nurse education in Australia (Princess Margaret Hospital, 1988).

At present, the Commonwealth Government of Australia has no national policy stance regarding paediatric nurse education hence since the end of 1993, students graduate as Comprehensive Nurses (Nurses Board of Western Australia [NBWA], 2004). The Commonwealth Government of Australia determined that comprehensive nursing was the preferred title as it "... promotes the best option for the flexible use of nurses ..." (Department of Health, Australia, 2002, p.161).

In Australia, the title Comprehensive Nurse means graduate RNs are registered with the National Nursing and Midwifery Board of Australia to practise, with support, in any hospital (other than midwifery) as a 'beginning qualified nurse' (NBWA, 2004). In addition, graduate RNs are not expected to be as highly skilled as they would be had they undertaken a nurse education in another speciality such as mental health or midwifery. In 2004, the NBWA issued a position paper (Standards of Proficiency for Pre-Registration Nursing Education, 2004) stating that any RN intending to specialise would require further training. However, no guidelines have been provided by the nursing registration bodies in Australia regarding the level of education or the amount of clinical practice to ensure universities or hospitals adhered to this policy directive. This means that RNs do not need to undertake any specialised education in paediatrics to work with children in any state or territory. Nor has any proposed change to this policy been mooted since the formation of the Nursing and Midwifery Board of Australia (NMBA, 2012) which is briefly described below. Thus, advancing paediatric RN education closer to alignment with the U.K. or the U.S. is not a high priority presently.

3.1.4 National health reform

In March 2008, the Council of Australian Governments (COAG)² announced significant policy reform affecting all health care professionals in Australia. This was the national agreement to change regulation and accreditation of health professionals by introducing national registries for

² The Council of Australian Governments (COAG), an intergovernmental forum which comprises of The Prime Minister, State Premiers, Territory Chief Ministers and the Presidents of Australian Local Government Associations (COAG, 2009). It initiates, develops and monitors policy reforms which affect the nation and require State and Territory cooperation.

all major health professions in Australia (COAG, 2008). Prior to this, each state and territory had its own nurses' board; therefore, if RNs wanted to work between states and territories, they had to register with individual state/ territory nurses' boards with potentially different guidelines. The reform had been proposed several years earlier as one strategy to address workforce issues in Australia (Eggert, 2005; Productivity Commission, 2005). Eggert suggested that if health was controlled by the Commonwealth Government of Australia, it would enable a national approach to health care workforce issues, such as the national shortage of RNs. It would also enable the health workforce to be more flexible and responsive to health needs of the nation by having a national certification with national standards in order to practise. The rationale behind national registration and accreditation was to simplify arrangements and improve consistency for health professionals in areas such as registration and education. Having a single national register for each professional group is intended to make it easier for health professionals to move interstate to work "... while maintaining and improving patient safety and the quality of the health workforce." (Commonwealth Government of Australia, 2010b, p.102). Although patient safety and quality of the health workforce are cited, there is no reference to the quality of care. Each health profession that is part of this new National Registration and Accreditation Scheme in Australia is represented by a National Board and all National Boards are supported by the Australian Health Practitioner Regulation Agency (AHPRA) (2009). These reforms resulted in the formation of the Nursing and Midwifery Board of Australia (NMBA).

As of July 2011, some ten health professions were included in the National Registration and Accreditation Scheme: medical practitioners; nurses and midwives (these are named as separate professions on the register with paediatric nursing included in the nursing category); pharmacists; physiotherapists; psychologists; osteopaths; chiropractors; optometrists; and dentists (including dental hygienists, dental prosthetists and dental therapists); and podiatry (Health Workforce Australia [HWA], 2010). From July 1st 2012, four further professions will be added to the register, these being: Aboriginal and Torres Strait Islander health practitioners; Chinese medicine practitioners; medical radiation practitioners; and occupational therapists.

Some specialist areas are cited by the Nursing and Midwifery Board such as mental health and midwifery; however, paediatric nursing is still not recognised as a specialty. Similarly, the Australian Nursing and Midwifery Council (ANMC) do not appear to recognise the importance of specific populations being cared for by those with specific training. In all relevant documents analysed to date, the ANMC does not state the parameters for specific populations such as

paediatrics, the elderly or mental health; nor has AHPRA (2009) published or implied any amendments to the above.

3.2 Constituents of optimal nursing care for children

Chapter Two identified the uniqueness of children in the healthcare context and how they have specific needs which differ from adults at various stages of their development. The evidence presented in the chapter showed that in order to meet these specific needs, children require specialised nursing.

Blegen, Vaughn and Goode (2001) reported on comparisons which had been made between tertiary educated RNs and hospital/ diploma trained nurses in the U.S. Blegen et al. concluded that education improves the quality of nursing care. However, although education is undoubtedly important, the NMC (2008) direct that the education is not just transferring theory to practice, it involves motivation to work with children and their families and to consider the rights of the child (UN Convention on the Rights of the Child, 1990).

Although Australia favours the generic education (comprehensive) nursing model, there are reports which emphasise the benefits of specialty education in nursing. For example, the Irish Association of Directors of Nursing and Midwifery (2003) supports education for RNs working with children as they believe it facilitates appropriate nursing care, so enabling education of children and their families. Furthermore, Barlow and Swanwick (1994) suggested that care provided by paediatric RNs was of a higher quality than general nurses.

The constituents of optimal care have been defined in a joint publication (Standards for The Care of Children and Adolescents in Health Services) by the Association for the Wellbeing of Children in Hospital (AWCH), The Australian College of Children and Young Peoples Nurses (ACCYPN), The Royal Australasian College of Physicians (RACP) and Children's Hospitals Australasia (CHA) (2008). The publication suggests that these standards of optimal care may be achieved through education or through clinical experience. However, questions have been raised about the best method to achieve the necessary competence for the provision of this optimal care. Some advocates suggest that practical experience is the best way to achieve the best results while others argue that only through specialised education will the quality of care for children be optimised (Blegen et al., 2001; Kelly & Hurst, 2006; Swanwick & Barlow, 1994). Despite these divisions within the field of paediatric nurse education, it has been accepted internationally that

specialised education does improve quality in health care (Buchan & Calman, 2004; Pan American Health Organization, 2007; The World Alliance for Patient Safety Drafting Group, 2009; World Health Assembly, 2006, 2002; WHO, 2006, 2000).

When children require health care, optimal nursing care should include the universal principles identified below; they should apply whenever children need health care. Of particular importance to the conceptual framework for this dissertation is the concept of 'optimal care' or best practice and how the ideas which underpin optimal care are incorporated into a conceptualisation of quality of care for children (Devitt & Thain, 2011; Glasper & Richardson, 2011, 2006; Hockenberry & Wilson, 2011; Potts & Mandleco, 2012).

- RNs should be fully aware of the physical, psychological/ emotional and social development of children at all stages.
- RNs should be fully aware of the vital role families have for children.
- RNs should engage with children and their families using appropriate verbal and nonverbal skills which include age appropriate language and concepts and establishing the family's previous experience of paediatric health care, and inquiring whether the families want to be or can be involved in the care of their child.
- RNs should inform children and their families about the health care environment to reduce children and families level of anxiety.
- RNs should be observant for any other potential stressors from the child or their family in health care.

Research underpinning the above principles in relation to the delivery of high quality care in paediatrics and specialist education is centred on recognising the uniqueness of children. The Charter of the European Association for Children in Hospital (EACH, 2003) points out that only through specific education are nurses able to meet the needs of children and their families who require health care. The International Association of Pediatric Nurses (IAPN, 2007) produced a competency framework for paediatric nurse education so that the Charter could be met in all European countries. The framework contained five components which focussed on:

- Professionalism
- Nursing practice and clinical decision making
- Specialist knowledge
- Communicating with children and their families
- Leadership and team working.

The framework aims to ensure that nurses who work with children will complete specialist paediatric education. The education should meet minimum standards of skills and knowledge and the nurses clinical competencies need to be assessed by a registered paediatric nurse. In addition, IAPN recommended the length of the course to be: post graduate/ post registration courses should be 52 weeks and direct entry courses such as under graduate nursing should be at least three years. The courses should be equally divided by theory and practicum. The framework also enables children's nurses to be transferrable between European countries, therefore more flexible. The Commonwealth Government of Australia also had a similar rationale when the National Registration and Accreditation Scheme was introduced in 2010 (AHPRA, 2012) in respect to increasing portability of qualifications and thus the flexibility of Australian health care professionals.

Quality in health care has most often been defined in terms of its outcomes for patients for example, a return to health, reduced in-patient days, or a lack of adverse/ sentinel events (Roberts & Perryman, 2007). As the field of health care quality developed over the last decade, the view crystallised that quality goes beyond the singular focus of reducing patient harm and medical errors and now encompasses larger goals such as 'systems improvement' (Australian Health Ministers' Conference [AHMC], 2005). These larger, system-oriented outcomes were recognised in Australia in the Paterson Review (AHMC, 2005). Although the AHMC aims to improve broader health systems, such as hospital structures and develop national standards in health, a key policy objective within quality improvement is achieving "... safe, effective and responsive care for [individual] consumers ...", and determining what are the causes of problems (AHMC, November 18th 2005).

3.3 Quality in health care

Quality in health care is not easy to define but is often associated with how well a procedure is performed or a lack of adverse/ sentinel events that occur during treatment or a procedure being performed (Beal et al., 2004; Roberts & Perryman, 2007; Woods, Thomas, Holl, Altman &

Brennan, 2005). It is often associated with health outcomes which are consistent with modern-day professional erudition (Institute of Medicine, 2012). This research used the literature to enable a focus on other aspects of quality, rather than just using outcomes or a lack of adverse/ sentinel events to measure quality. The research underlines the importance of the interaction between RNs, children and their families and the effect this may have on the quality of care.

Quality in health care means different things to different people at different times.

The American Nurses' Association (2007) uses health outcomes to measure quality of care.

Some of the indicators used include: a reduction in the number of falls in hospital; and an increase in nurse-patient skill mix. Therefore, it would seem that some providers of health care are only interested in outcomes which can be easily measured, especially if events like falls may result in litigation. Additionally, Kelly and Hurst (2006) developed a framework for Health Care Quality Indicators. The framework links safety to effectiveness and emphasizes how safety specifically aims to prevent adverse outcomes or 'sentinel events'. The indicator set was developed for OECD (Organisation for Economic Co-operation and Development) countries, which Australia is a member, and concentrates upon outcomes such as cancer screening, and mortality rates from asthma and surgical wait times after a person has fractured their hip.

Children are mentioned in the indicator set in the same section as the elderly and the reference is in relation to vaccination rates. Throughout the indicator set, there is no reference to interpersonal interactions of health care professionals with users of health systems and no reference is made to the experience or of the psychological care they may expect to receive. Kelly and Hurst do make one other reference to children; that is dental health by including an indicator set on tooth decay in the under fives. The OECD report highlights the attention to outcomes rather than any focus on the experience of users of health care services. The cursory mention of children also reiterates the scant attention paid to paediatrics in major reports on quality in health care.

Runciman et al. (2009, p.22) also describe quality in health care as " ... the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." Children are not mentioned in this report which focuses on patient safety but Runciman et al. do relate how information can be used to design education.

Woods et al. (2005), focused on adverse/ sentinel events within paediatrics as important, but the AHMC have a broader view of quality, linking it to the individuals' experiences of health care by involving patients in their own care and delivering evidence-based, person focused care (AHMC, 2005).

Even though quality in nursing has a broad definition, Blegen et al. (2001) advocated for 'positive' quality indicators such as critical thinking skills, communication and patient teaching skills rather than merely focussing on adverse/sentinel events. Blegen et al. focussed upon care given by nurses who had different levels of education. Blegen et al. collected data from 11 different hospitals over two and half years. They reported that the clinical care was similar but identified differences in quality. Belgan et al. (2001) concluded that behaviours such as communication skills, problem solving and teaching were better practised by nurses with a higher level of education. In addition, the authors described nurses with a higher level of education as being more professional, and reports by patients that the levels of explanation they received about their health condition[s] was less satisfactory when delivered from a hospital trained RN, even when the nurse was 'experienced'. Other larger studies have been conducted and the results also show that when the RNs have a higher level of education, quality in health care improves (Buchan & Calman, 2004; Pan American Health Organization, 2007; The World Alliance for Patient Safety Drafting Group, 2009; World Health Assembly, 2006, 2002; WHO, 2006, 2000).

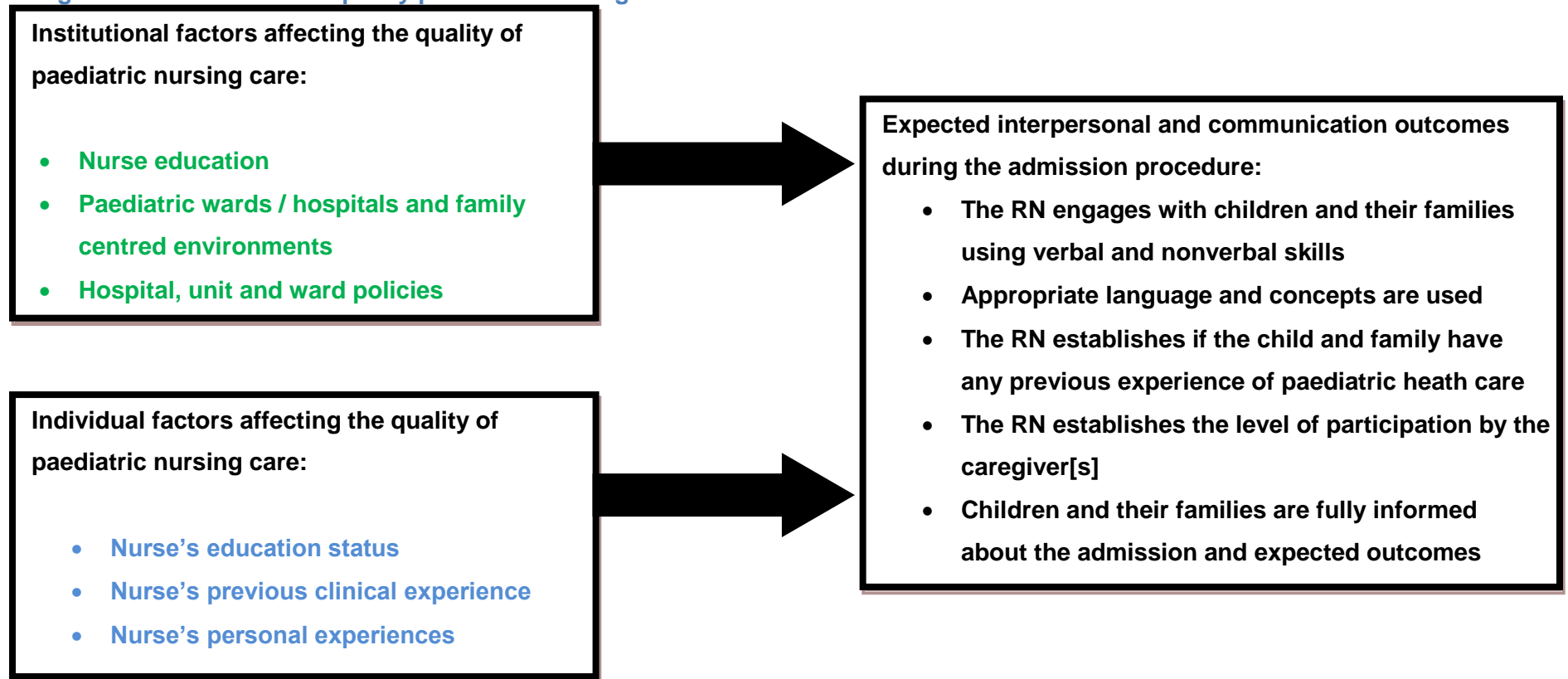
Although quality in health care does not and cannot have a definitive description, because it means different things to different groups, for example, consumers versus health professionals. However, there are aspects of care which are more appropriately classified as 'high quality'. In paediatrics, these are defined in the literature as 'recognising the uniqueness of children by understanding child development and why families are an integral component of children's nursing' (Cook & Cook, 2007; Coyne, 2006; Glasper & Richardson, 2011; Hockenberry & Wilson, 2011). There is little research into whether these concepts are best learned through education or experience; thus this question provides the basis for this research - to examine what influences high quality nursing care in paediatrics.

Figure 3.1 is a potential framework for quality care in paediatric nursing. It displays factors which may affect the quality of care and attention hospitalised children and their families receive. In addition, it summarises quality statements from the literature which could be adapted into quality

measures (QMs). These QMs could be incorporated in the care children and the needs of their families.

The hypothesis that RNs with a specialist paediatric education will provide the higher standard of care, as defined in the literature, by meeting the QMs more than RNs without a specialist paediatric educational qualification, has underpinned the development of this framework.

Figure 3.1 Framework for quality paediatric nursing care



3.4 Summary of the literature

This chapter provides a description of the development of paediatric nursing in the U.S., the U.K. and Australia. It has drawn attention to the major influences on paediatric nursing and the development of RN education in the U.K., the U.S. and Australia. It has emphasised international policies which have had an effect upon paediatric RN education. The chapter has also recognised the challenges to quality in health care.

Due to the unique demography of Australia, it may be that health care has to be administered and delivered differently from countries such as the U.K. and the U.S. While the U.K. and the U.S. have made the assumption that children need to be nursed by experts in paediatrics, and there are similar recommendations from various expert bodies, neither seem to have been a catalyst for the Commonwealth Government and the state and territory governments in Australia in respect to policy change.

The literature reviewed has highlighted the differences between adults and children. These are not only the obvious physical differences of size, but the physiological processes. The literature emphasises the importance of RNs having knowledge of the differences and recognising signs and symptoms which may indicate a serious injury or illness in a child, whereas in an adult, the same signs may be less dangerous. The literature also emphasises not only the physical differences between adults and children but the psychological and social differences which RNs need to recognise and understand. Much of the literature suggests that to ensure RNs recognise these differences, education and training in paediatrics is extremely important. The education of paediatric RNs needs to include the anatomy and physiology and, the psychological, emotional and social development of children. RNs also need to understand the vital importance of caregivers to the wellbeing of children, and the manner in which their families need to be supported when they are in a hospital. It is argued that this is a major reason why education for family centred care being necessary for paediatric RNs (The Royal Australasian College of Physicians [RACP], (2009).

Child health and paediatric nursing have evolved over the last 200 years, the literature describing how children have had their health care needs met during this time. Due to their physical immaturity and less well developed immunity, children are more vulnerable to infections which in the past often resulted in deaths. This was part of the rationale for the building of paediatric

hospitals; however an unforeseen consequence of this policy was that child patients had little or no contact with their families. This often resulted in many children suffering psychological damage such as regression and separation anxiety.

Paediatric nursing is considered as a specialty area by some, albeit not universally (Goode, Harrod, Wales, & Crisp, 2004; Woods, 1997), and the importance of specialist education continues to be unresolved in the educational policy context. Despite this, some of the literature repeatedly links the level of RN education to the quality of care delivered.

The literature reviewed in Chapters Two and Three provided analysis and commentary on:

- The history of care of children in hospitals and beginnings of recognising their specific needs;
- The differences between children and adults;
- Child development, theories and philosophies;
- Family centred care and the impact of involving the caregiver[s] in paediatric nursing;
- Literature defining the 'quality of care';
- Paediatric nursing history including moves to specialisation; and
- Research relating to specific training and education for children's RNs and the impact Commonwealth, state and territory government policy changes has had upon this.

Some literature indicates that specialist education rather than on-the job training in paediatrics is important to ensuring children and their families receive the highest quality care when they are admitted to hospital. The level of specialist education generally means that RNs have undertaken either an undergraduate course in paediatrics or a postgraduate certificate or diploma in paediatrics.

This research aims to determine if specialist education in paediatrics has any effect on the quality of care hospitalised children and their families receive in Australia. The hypothesis that RNs with a specialist paediatric education will provide a higher standard of care as defined by the literature by meeting quality measures (QMs) more than RNs without a specialist paediatric educational qualification is tested. The development of the QMs is described in Chapter Four as a stage in the methodology used in this research.

Chapter Four: Methodology

4.0 Introduction

This chapter describes the research design and provides the rationale for a mixed methodology to test the research question posed in this thesis. As described in the previous chapters, some clinicians advocate that when children require health care, they should be cared for by RNs who are educated in, and understand, the specific physical, psychological and social needs of children as well as family centred care (Bowlby & Robertson, 1952; Hockenberry & Wilson, 2011; Pilliteri, 2009; Whaley & Wong, 1982). The research was conducted in four stages:

Stage one: A literature and policy review addressing the following two questions:

- a) What does the literature, including policy documents, reveal about specialist paediatric RN education and is this reflected in government and workforce planning?
- b) What quality measures for specific procedures in paediatric nursing can be identified as high quality care?

Stage two: Delphi consensus-building to determine whether consensus of what specific quality care, non-clinical behaviours, in the admission procedure for children can be reached by experts in paediatric nursing.

Stage three: Observational data collection of paediatric RNs engaged in the admission procedure to determine whether the identified quality behaviours are observed.

Stage four: A survey of the paediatric RNs to elicit their perceptions about the major influences on their nursing care and behaviour, including specialist paediatric education.

Since 1994, the Commonwealth Government of Australia's policy has been at odds with the notion that specialist RN education in paediatrics would be beneficial for children's health outcomes and it has adopted a generalist approach to paediatric nursing. RNs caring for children are not required to undertake any specific postgraduate education in paediatrics; they are only required to be comprehensive RNs. However, some literature suggests that specialist education in paediatrics is an important element in the delivery of quality care for children and their families. The purpose of this research is to examine whether specialist paediatric nurses

(SPN), that is, an RN, who has undertaken further education in paediatrics, displays a higher quality of care as measured by the quality measures (QMs) developed for this study during the admission procedure, than a non-specialist paediatric nurse (NSPN), an RN who has not undertaken further education in paediatrics.

There are a number of reasons for choosing the admission procedure as the context for testing the research hypothesis. First, it is not only the commonest procedure children undergo for in-patient hospital care; but second, and more importantly, when RNs first meet a child, or when a child is undergoing a potentially stressful procedure, RNs need to know, and use particular knowledge and skills, in order to assess the child properly while, at the same time, reassuring the child who may be experiencing a new, scary and strange environment (Potts & Mandelco, 2012). In particular, the ways in which RNs engage with children during these procedures, such as explanations using age appropriate language and techniques, are an important, yet under-explored area of nursing research, and are included in the quality measures being tested in this research.

4.0.1 Context for testing the research question

No currently published data examines whether the quality of the experiences of children and their families is affected by the level of education that RNs have undertaken. Children's and parents' perceptions of nurses have been researched (Pelander & Leino-Kilpi, 2004), but the principles of paediatrics and family centred care (FCC), specifically in relation to nurse education have not been examined. Therefore, to examine quality of care within paediatric nursing, quality measures were identified and tested.

The knowledge and skills of specially educated RNs have been shown to help minimise or prevent physical and psychological distress during the procedures children may undergo when they are hospitalised (Feeg, 1989; Hockenberry & Wilson 2011). When adults are admitted to hospital, most are able to understand the explanations given to them during procedures. But, as previously, children on admission to hospital respond to stimuli differently than adults due to such stages of their development, as emotional immaturity and the physiological differences between children and adults. Therefore they are more at risk of physical changes such as disturbed sleep patterns or immobility due to pain. Children are also more at risk from psychological distress such as, fear, sadness or guilt and they may see hospitalisation as a form of punishment (Hockenberry & Wilson, 2011).

As a consequence of the potential anxiety in children or their parents, they need special consideration when being admitted to hospital. This should include being given time to adjust and explore their surroundings, using positive reinforcement and the use of age appropriate language and concepts, and not separating the children from their parents but rather encouraging parents to participate in their child's care (London et al., 2007; Klossner & Hatfield, 2006; WHO, 1955). These are some of the themes being tested during this research. Other major themes are the need of children to have their caregivers near them and the necessity of ensuring that some level of normality is maintained (Vessey, 2003; White, 2005).

4.0.2 The hypothesis to be tested and the research questions

Specialist educated paediatric RNs will exhibit the identified quality behaviours in encounters with children and their families during the admission procedure more often than RNs without the specialist education.

Research Question One: What does the literature, including policy documents, reveal about specialist paediatric RN education and is this reflected in government and workforce planning?

Research Question Two: What quality measures for specific procedures in paediatric nursing can be identified to improve the quality of care?

Research Question Three: What degree of consensus can be reached regarding the specific quality of care needed for the admission procedure using a Delphi method with paediatric experts?

Research Question Four: Which, of the observed data can feasibly be used to collect valid and reliable information with which to answer whether the identified quality behaviours are being practised during the admission procedure?

Research Question Five: What are the perceptions of a sample of paediatric RNs about the influence of professional education on their nursing care and behaviour?

4.0.3 The null hypothesis for this research project

There will be no difference in the exhibition of identified quality behaviours in the encounters with children and their family during the admission process by specially educated paediatric RNs and RNs without specialist education.

This research used both quantitative and qualitative techniques as described by Mertens (2005) and Cresswell (2003) to determine if specialist education has any affect upon the quality of care children receive during in-patient care. In the following sections, the rationale is presented as to why the chosen methods were used in this research, how validity and reliability were addressed

in each of the stages of the methods, and a description of the data collection process conducted for this study.

4.1 Review of the professional literature - Stage One A

Stage One (a) Research Question One: What does the literature including policy documents reveal about specialist paediatric RN education and is this reflected in government and workforce planning?

4.1.1 The search strategy

A desk analysis of the professional literature, government publications, and government and professional organisations' policy documents was undertaken to guide the development of paediatric quality measures.

The specific review of the professional peer-reviewed literature was undertaken to identify what is best practice. The review included journals and textbooks in English, relating specifically to paediatric nursing, from the United Kingdom (U.K.), Europe, the United States (U.S.), Australia and Canada. It also included a search of professional paediatric nursing and non-government children's organisations. The searches were undertaken to identify best practice and included all contemporary theories and standards as part of the broad definition of quality care provided during the admission procedure in order to identify preliminary quality statements from the published literature. Identifying search parameters enables literature searches to be rigorous by extracting the related parameters from the question to be answered, and to define the population of the search as identified in the literature (Kitchenham, 2004). In this study, the populations of interest were RNs working within paediatrics and children and their families. Kitchenham further explains that interventions and outcomes within the literature need to be recognised. For the purpose of this literature search, the interventions were the current education level required for RNs to work within paediatrics and the outcomes involved identifying and defining quality care within children's nursing.

An inclusive list of all potential publications or government documents between 1994 and 2008 was made to capture the relevant literature. These dates were chosen because 1994 was when RN education was completely transferred to the tertiary sector and 2008 was when the Delphi Panel was recruited.

Kitchenham (2004) advises the inclusion of alternative terms and spellings during the search to ensure all the relevant literature is captured. The data bases searched were CINAHL Plus,

Medline, Health Collection, ProQuest Health, and ISI Web. In addition, the Western Australia's Department of Health's 'Health Networks' publications and reports were searched. Examples of specific journals searched included 'Paediatric Nursing' from the U.K. 'Pediatric Nursing' from the U.S., and the Australian Nursing Journal for articles relating to children's nursing in Australia. The organisations searched included: The Australian College of Children's and Young People's Nurses (ACCYPN); The Royal College of Nurses (U.K. and Australia); The Association for the Welfare of Child Health (AWCH); and Action for Sick Children. Additionally, a search of Commonwealth Government of Australia and state and territory government policy documents and select committee hearings relating to paediatric in-patient care and RNs working with children was carried out to determine if there were any policies, similar to the U.K. government's relating to paediatric RN education and children's nursing care.

The terms used to search this literature were: Paediatric[s]; pediatric[s] child/ children; paediatric (including pediatric children and child) nursing; family centred care; paediatric (including pediatric, children and child) RN education; RN education; child/ children development; child/ children development stages; child/ children development milestones; and child/ children development[al] theories.

The search terms used to search and identify pertinent government documents were: Commonwealth Government of Australia nurse/ Commonwealth/ Australian nursing policy; Commonwealth Government of Australia (including Australian Government, Australian Government Department of Health and Ageing; Medicare Australia) health policy; state/ territory health policy (including Government of Western Australia/ Department of Health; New South Wales Government/ Department of Health; The State Government of Victoria/ Department of Human Service; The Government of South Australia/ Department of Health; Queensland Government/ Queensland Health; Australian Capital Territory Government/ Health Information; Department of Health and Human Services Tasmania; Northern Territory Government/ Department of Health and Families); state/ territory nursing policy (as above); paediatric (included child/ children) nurse education; paediatric (included child/ children) nursing; nurse education; nurse policy; nurse legislative bodies; nurses (nursing) board[s] paediatric (included child/ children) non-statutory (non-government and voluntary) organisations; child/ children development; and The Australian Government Search Service.

4.1.2 Quality measures

The publication of the Platt Report (1959) and the work of pioneers in child development such as Spitz (1945), Bowlby (1952) and Robertson (1955), had a significant impact on the quality of care hospitalised children received internationally. The aforementioned report and research reiterated publications from the latter half of the 19th century, such as Jacobi (1870) in the U.S. and Wood (1888) in the U.K., who advocated for health care workers to be educated in the unique needs of children and families. The Platt Report stressed the importance of families and knowledge of child development and was the first government policy to advocate that paediatric RNs should undertake specific education in the unique needs of children.

There are statements of practice and recommendations for care delivery in paediatrics, but there are few actual quality measures in children's nursing, and none for the admission procedure. Hence developing QMs for this procedure is essential to measuring then ensuring children and their families receive the highest quality nursing care possible.

A set of quality of care statements was derived from the literature on standards for paediatric, hospitalised children's care during the admission procedure to hospital. This event is the logical procedure for which to identify quality statements for because it is the commonest procedure children undergo when they are hospitalised (Smalley, 1999; Young et al., 1996). In addition, the literature suggests that during the admission procedure, paediatric nursing strategies are critical to ensure the best outcome for children and their families (Kyle, 2008). For example, a previous negative experience of hospitals may result in families being extremely anxious during the admission procedure (Devitt & Thain, 2011). Similarly, an RN should be sensitive to families' needs in order to help parents during hospital procedures performed on their child, or giving children time to adjust to the hospital environment. The availability of toys or games or the use of diversional therapy is used during potentially painful procedures should be standard practice (Hockenberry & Wilson, 2011). Moreover, high anxiety levels in carers is perceived by children and increases their stress levels (Hockenberry & Wilson, 2011). Discovering whether a child has been in hospital before and what they remember of this experience can affect the level or type of explanation carers need because high anxiety levels of carers and/ or children require more explanation and preparation for the forthcoming procedures (Devitt & Thain, 2011).

4.1.3 Literature review findings. Stage One B

What quality statements for specific procedures in paediatric nursing can be identified as necessary for high quality care?

The researcher identified 13 quality statements from the professional literature which depict best practice for RNs when children and their families are hospitalised. The quality statements as identified from the professional literature are presented in Figure 4.1, amalgamating the recommendations from the various reports, from professional and non-government sector, and from good practice expected from the paediatric nursing literature. The quality statements in the figures were identified because the literature repeatedly referred to them as techniques which should be used during the admission procedure for children. These 13 statements were cited in seven different specific paediatric nursing texts.

To ensure that no pertinent statements were omitted and that the review was comprehensive, a further search of the literature was undertaken. In addition to the literature presented in Chapters Two and Three, and using the search terms, a further 203 articles were reviewed. Of these, 53 made direct links of 'specialist education' and 'quality in paediatric nursing'.

Content analysis was performed on the 53 articles to identify patterns and themes, which is an appropriate method for reviewing the professional literature for this thesis because, using this method, categories for classification of the content in the articles has been previously developed prior to conducting the review (Minichiello, Sullivan, Greenwood & Axford, 2004). The criterion used to determine relevance of the selected category of quality statements was their cumulative number of times they were cited in the literature. The researcher identified the categories from the literature review and then quantified the number of times 'specialist education', and 'quality in paediatric nursing' occurred (CSU, 2011; Minichiello, et al., 2004); and these are described in the following section (see 4.1.5). This process verified that education is a consistently used term in relation to quality paediatric nursing. For example, The Australian Nursing and Midwifery Council (ANMC) (2006) advocates that RN practitioners who have undertaken further education and training in a specific area could also be employed in areas such as child health. Similarly the Nurses' Board of Western Australia (NBWA) cited that new RN graduates would require further nursing studies beyond that required for initial registration, if they intended to specialise in any area of nursing practice (NBWA, 2004).

Additionally, based on peer-reviewed journal articles and professional and non-government organisation policies, the common statements/ themes which emerged were similar to those presented in Figure 4.1. The researcher was able to identify two specific categories of quality in paediatric nursing which were listed under the broad themes of child development and communication with children and their families.

4.1.4 Results from the government documents and publication search

Stage One (b), Research Question Two: What quality measures for specific procedures in paediatric nursing can be identified to improve the quality of care?

The rationale for the search of government policies and documents was to provide a way to capture the context of the historical, political, social and economic factors that influenced the development standards and quality measures in paediatric nursing within Australia. The review of the content analysis of professional nursing bodies' policies including the ANMC and former state and territory nursing and midwifery boards, (now Australian Nursing and Midwifery Board [ANMB]), and the literature enabled the researcher to verify that the basic quality measures were contemporary. Policy documents, published between 1994, when all RN education was completely transferred to the tertiary sector and 2008, the recruitment of the Delphi Panel for this thesis, were identified and reviewed as the first step in data collection for this dissertation. If policies had already been produced by the Commonwealth Government of Australia, or by state/ territory governments, these would guide the development of the QMs. As there were no government policies or policies from nursing regulatory authorities, such as nurses' boards, referring to paediatric nursing or children's nursing education, only professional organisations, non-government organisations and the literature were used to develop the QMs.

This literature emphasised that the quality measures previously identified in this thesis are the important aspects of paediatric nursing. The literature also confirmed that specific education is one factor that facilitates best practice for achieving the highest possible quality of care (AWCH, ACCYPN, RACP & CHA, 2008). Although the quality statements were identified as good practice, to date no studies or research was found demonstrating that specialist education in paediatrics makes a difference to the quality of care delivered.

The fact that the researcher alone selected the quality statements from the documents and policies for this study could pose a potential threat to their validity because the researcher may have been biased in the identification process. To counteract this, as the quality statements were used as the basis to develop the quality measures, a second validation phase of the

statements was included in the methodology for this study. The second phase in Stage One of the research design was the validation of the selected statements through a critical review of the statements by the Delphi Panel to address any such bias; this is described in Section 4.2.

Figure 4.1 Quality statements (admission procedure) identified from the literature

Smiling and saying hello to the carers and introducing themselves by name, then smiling, and getting to the child's eye level to greet the child and introducing themselves by name to the child (Bowden & Greenberg, 2010; Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008; Pilliteri, 2009; Schmidt, et al., 2007; Weller, 1986).

Addressing the child and carers by name and clarifying if the child has a preferred name (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008).

Fully explaining the procedure to the carer so if needed they can explain to the child (Hockenberry & Wilson, 2007; Osteogenesis Imperfecta Foundation 2006; Van Horn, DeMaso & Lefkowitz, 2003).

Using words/ phrases the child is able to understand i.e. appropriate for the child's developmental age (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Weller, 1986).

Discovering if the child has special names for certain things such as wanting the toilet or food (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008).

If the child is not too unwell, provide activities (Klossner & Hatfield, 2006; Kyle, 2008).

Not rushing the child (Hockenberry & Wilson, 2007; Kyle, 2008).

The child and carers being shown areas such as the play room, parent facilities, and where toys and games are kept (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008; Weller, 1986).

Explaining in detail the admission procedure to the child and carers using age appropriate language/concepts (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Weller, 1986).

Involving the carers in procedures and asking if they (and/ or the child) have any questions (AWCH, 2008; CHA, 2008; Hockenberry & Wilson, 2007; Kyle, 2008; RACP, 2008; Weller, 1986).

Using a doll/ teddy bear/ or toys the child is familiar with may help the child feel more at ease with the procedure (AWCH, 2008; CHA, 2008; Kyle, 2008; RACP, 2008).

Introducing the child to other children (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008; Weller, 1986).

Praising the child when they have cooperated (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008).

The search of government policy documents using the terms described above, returned 61 documents. Of these 41 were from the Commonwealth Government of Australia and 20 were from state/ territory governments. Overall, the search of the Commonwealth Government of Australia strategic policy documents, select committee hearing transcriptions pertaining to paediatric nursing, and state and territory government documents and publications revealed that:

- 1) Not all areas within Australia have specific policies relating to caring for children. Furthermore, some have no policies about nursing care or the provision of nurse education; and
- 2) The states/ territories appear to incorporate the Commonwealth Government of Australia policies within their jurisdiction.

4.1.5 Defining the QM development procedures for the Delphi data collection

What quality measures for specific procedures in paediatric nursing can be identified to improve the quality of care?

Procedures performed upon children in hospital are numerous and varied, ranging from taking and recording of vital signs, inserting devices such as nasogastric tubes, to holding a child for a lumbar puncture. There are protocols for these actions but there are no guidelines which focus upon the quality of the interaction between health care staff, and children and their families for before, during or after such procedures. However, it was not possible to develop quality measures for every procedure performed in hospital within the parameters of this research (see Chapter Six, Section 6.7). The development of further QMs will be the focus of post-doctoral work.

As asserted by Elms (2007), it is more relevant to observe how people act during common events rather than how they act during less common occurrences. Thus, this research concentrated upon the commonest procedure performed on children needing in-patient health care: the admission procedure (Smalley, 1999; Young et al 1996).

4.2 The Delphi consensus building data collection

Stage two: Research Question Three: Can a consensus be reached regarding what specific quality of care is needed for the admission procedure using the Delphi method with paediatric nurse experts?

The second stage of the research used the Delphi methodology with a panel of paediatric nursing experts. The selection and description of the panel is described in section 4.2.3 but they were all RNs with a specialist paediatric qualification, who would be able to:

1. Develop consensus on 24 quality measures, which were derived from the 13 statements identified from the literature (Figure 4.1) for paediatric nursing and they should be used during the admission procedure; and
2. Use these quality measures as benchmark measures to test the research hypothesis for this thesis.

The RAND³ Corporation, a non-profit institution that aims to help improve policy and decision making through research and analysis, developed the Delphi method in the early 1950s as a 'new' research methodology that would allow for the planning of scientific and technological development to meet the demands of a 'cold war' world (Dalekey & Helmer, 1963). The Delphi method was initially developed to enable various experts in differing scientific fields to forecast how technological advances would affect warfare (RAND, 2008). Since the 1950s and 1960s, the method has undergone many refinements and been applied in a wide variety of fields but essentially, the Delphi method is a way of obtaining individual expert opinions which are not influenced by peers, as in the case of face to face group meetings. The method has been adapted for use in a variety of other areas and in health for many years (Hasson, Keeney & Mckenna, 2000). Examples of this include mental health assessment techniques (Hardy et al., 2004), assessing quality measures in adult emergency departments (Beatie & Mackway-Jones, 2004) and planning care for major incidents (disaster management) in paediatrics (Carley, Mackway-Jones & Donnan, 1999).

The Delphi method is a means of obtaining expert opinions and refines these judgements through group consensus (Dalkey, 1969). One of the key advantages of the Delphi method over other methods of developing consensus is that it is conducted anonymously. The identity of

³ RAND: an acronym for Research ANd Development (Campbell, 2004).

the individuals is known only to the person who convened group. This means there is no influence (either direct or perceived) by any group member. For example, in the context of this study, group members may have felt compromised if their iteration conflicted with that of a member who had a higher profile within paediatric nursing. Therefore, important information or ideas may be missed from the Delphi Panel members.

The Delphi method also uses multiple iterations/ waves of information sharing and debated to obtain the best possible consensus statement for a topic. This is a unique advantage over other methods because Panel members can reflect upon what they have expressed over several days/ weeks and can make amendments to their original ideas. This is not possible in other consensus methods such as the nominal group technique or a consensus development conference. Also, reflection is not possible when a focus group is used.

There are a number of other ways to obtain consensus. For example, the consensus development conference is a process which uses a panel of experts to judge presented evidence from invited specialists about a subject. The conferences are often convened when some controversy about a topic exists and about which a body of evidence is available. The evidence is then debated by the conference until a consensus position is reached and conveyed to the appropriate areas such as the health department, education department or the planning department depending upon where the conference was convened (McDonald, Bammer & Deane, 2009).

The nominal group technique is a structured meeting of experts about a given topic. The participants of the group write down their opinions about the topic before each member states an idea to the facilitator in turn. These opinions are then collated for discussion to clarify any issues before each group member ranks the opinions. This process is then repeated giving the group members the opportunity to re-rank their ideas. The facilitator then presents the feedback to the group (Jones & Hunter, 1995).

Focus groups can provide rich data as participants interact and debate about the level of information obtained. This procedure is often complex and distracting, and researchers having less control (St John, 2004). For example, a focus group of paediatric nurses and users of the service could have been convened for this research but the members would not provide the factual information necessary (St John, 2004).

Questionnaires, being not costly, could have been sent to experts in paediatric nursing thereby providing anonymity and a minimal opportunity for the researcher to create a bias (Polit & Beck, 2006). However, the authors warn that the response rate is often poor and the questions can easily be misinterpreted (Polit & Beck). Thus, this approach was not adopted for the study.

Any group meeting of experts has limitations as described above. The advantages of the Delphi method over group meetings are that members give their opinion without being influenced by other group members as the membership is anonymous and known only to the researcher[s], and each member is able to contribute equally (Adler & Ziglio, 1996; Linstone & Turoff, 1975). Time is less constrained than that in face-to-face meetings and the attention is focused solely on the issue rather than other group agendas (Adler & Ziglio, 1996). The method is able to gain expert opinions from a global perspective and there are precise records of the process of how the 'informed judgment' is achieved (Adler & Ziglio, 1996).

Individual interviews with experts can provide excellent data but this would be time consuming due to the amount of expert opinion needed to develop the QMs. In addition, the logistics of getting international experts interviewed would be limited, and giving experts' time to consider the quality statements would be restricted, even via a recorded video conference. Telephone interviews yield less favourable results unless the questions are simple to understand with limited detail (Polit & Beck, 2006). The QMs required a higher level of detail than could be achieved using telephone surveys.

When using the Delphi technique, each Panel member is sent the same information and asked to comment before returning their individual opinions about the issue to the convener of the Delphi Panel. The anonymous responses are then collated and returned to each Panel member for further review and comments. Sometimes, the experts are asked either to rate or eliminate elements or items from the first round of consensus to refine the end product better. This also means that after receiving the collated information for a second time, the experts can re-evaluate, using their anonymous peers' opinions to enhance their evaluation of the content and relative importance of these collated conclusions (Cuhls, 1999). Most often, after three or four iterations/ waves, consensus can be achieved (Polit & Beck, 2006). Through this process, consensus building can be achieved as all possible options and opinions regarding an issue have been presented and discussed (Adler & Ziglio, 1996; Dalkey, 1969; Polit & Beck, 2006). The main criteria for the Delphi method to be successful are:

- The Panel members must be expert in the issue being studied (Dlakey, 1969);
- The Panel members must be anonymous to each other to avoid “... any tendency to follow-the-leader” (Adler & Ziglio, 1996, p22); and
- The Panel members must be given time to revise their initial responses after seeing other experts’ views (Dalkey & Girshick, 1963).

In contrast to the nominal group technique or a consensus development conference method (of identification of standards/ of consensus building), the Delphi method is more appropriate for the tasks identified in this dissertation because:

- 1) Consensus developed through the Delphi method supports the validity of the final QM document, not only through the iterations of the process to achieve consensus but by using experts to achieve consensus of the definition of the QMs ensures their validity, that is, the consensus by experts provides support for the strength, weight and power of the conclusion made by them.
- 2) The Delphi method has been shown as a sound approach to the development of agreement among professionals even when they are from different backgrounds (Day & Bobeva, 2004; Department of Sustainability and Environment [DSE], 2011).

4.2.1 Validity of the Delphi technique

Validity refers to how well the research methods measure what the research states it measures (Borbasi, Jackson & Langford, 2008). If consensus about good practice was gained from a group of RNs’ opinions, there would be a danger that the quality statements were based upon nursing traditions. Thus the method would not be a validated method about quality during the admission procedure and this would pose a threat to validity (Macnee & McCabe, 2008). The Delphi method achieves one type of validity - face validity because each Panel member met the criteria described by Adler and Ziglio (1996) and Goodman (1987) to be classed as an expert. That is, they had specific knowledge and were deemed able to judge information and opinions of other panel members about the topic being debated. An expert implies that the person has experience and a ‘special skill’ in the subject but does not need to hold a PhD (Adler & Ziglio, 1996; Goodman 1987).

Another classification of validity is ‘content validity’; this refers to appropriateness of the items on a tool, and how thoroughly the tool reflects what it is supposed to measure (Macnee, 2004). In this research the content validity refers to whether the QM tool (see Figure 4.4) adequately measures RNs’ quality behaviours during the admission procedure (College Board, 2011; van

Saane, Sluiter, Verbeek & Frings-Dresen, 2003). It is a usual function of a Delphi Panel to judge content validity (College Board, 2011).

Criterion validity is used to describe how accurate the instrument is in measuring the procedure. This is usually done by comparing the instrument with another proven measurement tool (Colorado State University, 2010). As there are no other quality measures developed in paediatric nursing, criterion validity could not be measured for the quality statements. Similarly, construct validity measures the underlying meanings of the procedure being measured (Borbasi et al., 2008). The tool used in this research was designed specifically for this study and, as there are no previous QM measurement tools, it was not possible to compare the tools with any other similar measure.

Consensus on what is good practice during the admission procedure was achieved using a panel of 15 experts in paediatric nursing. Although the Delphi method has been recommended for the achievement of consensus on specific issues (Goodman, 1987), there are some limitations to its use.

4.2.2 Drawbacks to the Delphi method

Like many research methods, the Delphi method has limitations. For example, the choice of the expert or, not having enough experts may mean the judgements made are not an accurate interpretation of all available data.

In addition, the Delphi method has been criticised for a lack of experimental rigour (Sackman, 1975) but Linstone and Turoff (1975) argue that the Delphi method is as robust as other qualitative methods, such as case studies or behaviour analysis. Goodman (1987) also argues against Sackman's (1975) view, advocating that if it can be shown that the Panel are experts in the relevant field then validity of the method is demonstrated.

Another potential drawback to the Delphi method is that if certain Panel members cannot commit sufficient time to the issue, other members may lose interest or enthusiasm due to a delay in the responses; this may lead to a poor response rate.

4.2.3 Variations to the Delphi method

Variations of the traditional Delphi method are described in the literature, for example, the original Delphi method stated four iterations/ waves were needed to achieve consensus but

consensus has been shown to be achievable and validity shown following three iterations (Adler & Ziglio, 1996).

Another example of a modified Delphi method is 'real time' Delphi as demonstrated by Hitch and Murgatroyd (1983). The authors' report this concept was being used to ascertain RNs' opinions during a conference related to cancer nursing. The RNs were given questions and asked to answer them in the conference hall. This technique would have to assume that all the conference delegates were experts for this to be classed as a legitimate Delphi method; however, it does demonstrate that modifications of the method can be used.

For the purpose of this research, a minimal modification of the Delphi method was used to develop the quality measures in paediatric nursing. Experts in paediatric nursing were recruited unknown to each other. They were given time to review the quality statements which were collated by the researcher then implemented over a further three iterations/ waves. The Panel also considered the type of admission, such as a booked admission or an emergency admission and whether different QMs for each type of admission were necessary. The Panel agreed that regardless of the type of admission, the QMs were valid so these were designed for application regardless of the reason for a child being admitted into hospital. The reasons given for the use of this approach were concerned with child development ages and stages and FCC always being vital components of any paediatric admission into hospital (Potts & Mandelco, 2012). Prior to describing the process of testing the QMs, the Panel selection and technique for this stage of the research is described below.

4.2.4 The Delphi Panel selection criteria

Because experts are needed for a Delphi Panel, a random sample selection of paediatric experts would not be feasible because no list or resource exists which identifies all RNs who match the above criteria (Borbasi et al., 2008). Therefore, a purposive, non-probability sample selection was implemented, the Panel members being selectively chosen especially for their expertise.

The selection criteria for Delphi Panel membership varied, for example, Adler and Ziglio (1996) suggest that experience, demonstrated skill and knowledge is enough and potential members do not need to have specific academic qualifications. Hsu and Sandford (2007) argue however that the expertise is dependent upon the discipline of panel members. Despite there being no

set definition for panel membership, to reduce threats to validity and the reliability of the consensus, the researcher used the following criteria: 1) the Panel member had to be an expert as defined by Adler and Ziglio; 2) the member had to be studying for or had completed a PhD in a paediatric nursing associated subject area; and 3) the Panel member had to be a published author in a paediatric subject. Using these criteria fulfills Adler and Ziglio's (1996) definition of an expert in a given field. In addition to Adler and Ziglio's definition of panel membership, Bourgeois, Pugmire, Stevenson, Swanson and Swanson (n.d.) claim that the convener of the Panel, in this case the researcher, is the person who ascertains what criteria are needed to classify a potential Panel member as an 'expert'.

Although the size of the Delphi Panel may be up to as many as 50 members, for example, when using the Delphi method for reference groups, a homogenous Panel of ten to 15 members obtains good results (Adler & Ziglio, 1996; Delbecq, Van de Ven, & Gustafson, 1975; Goldschmidt, 1975; Helmer & Rescher, 1959; Ludwig, 1997). The researcher aimed to recruit more than ten Panel members because the greater the number in the sample, the better the representation of the population chosen and the greater validity of the results (Minichiello, et al., 2004).

A total of 26 paediatric RN experts were identified through the literature and were invited to be part of the Delphi Panel. The Panel was selected by reviewing current literature and contacting authors, who were paediatric nursing experts from a variety of countries. These were contacted in Canada, Denmark, England, Finland, France, Germany, Ireland, Japan, Norway, South Africa, the U.S., and Wales, either directly by e-mail via their published e-mail address or by the e-mail address of the organisation within which they worked. Experts from France, Germany, Japan and South Africa did not respond.

Experts from Australia were excluded as potential members of the Panel because their inclusion may have introduced a bias into the process due to the current level of education and qualifications required to work in paediatric nursing in Australia being either RN or enrolled nurses⁴ (EN); also it does not include any extra education or training qualifications (DEST,

⁴ Enrolled nurses were not included in this research as this grade of nurse education is not at university level. Enrolled nurses have to complete a diploma and then work under the supervision of RNs to provide basic nursing care (DoHWA, n.d).

2002). In addition, this exclusion ensured that the Panel was more likely to produce generalised consensus of best practice rather than Australian only (Minichiello, et al., 2004).

4.2.5 The Delphi Panel recruitment process

An e-mail was sent to each expert, explaining the research, the Delphi method and how and why each was identified as suitable to be a Panel member. Of the 26 experts invited, 15 individuals agreed to be part of the Panel. The sample was purposive, and open to potential bias which considers that, as the author selected Panel members from a review of international literature, representativeness is not assured (Hasson, Keeney & McKenna, 2000). Although the researcher aimed to ensure the bias potential was minimal by not intentionally seeking or searching for any particular expert, complete impartiality cannot be assured. Also, there may have been more suitable Panel members who did not respond to the researcher; thus when the panel achieved consensus, the final QMs may not be truly representative (Minichiello et al., 2004).

4.2.6 The Delphi first wave data collection

An e-mail which included information about the Delphi method (Figure 4.3) was sent to each Panel member. The information about the Delphi method was included because some of the experts may have had no previous experience of participating in a Delphi Panel. The e-mail included a short sentence explaining that the statements of best practice were identified from the literature by the researcher (see Figure 4.1 and Section 4.1.1). This was an important point to highlight because, unlike the Commonwealth Government of Australia, the governments of some countries such as the U.K.⁵ have policy guidelines identifying best practice within paediatric nursing. Therefore, Panel members needed to be aware of the source of the information they were being asked to review and comment on. A further three waves of consensus building were conducted with the Delphi Panel.

⁵ In the U.K. UG student nurses who intend to specialise in paediatrics must complete a three year, full time paediatric nursing course in order to be able to register with the NMC (NMC, 2004), or, a 12 month, fulltime post registration or post graduate paediatric nursing course (NMC, 2012).

Figure 4.2 Explanation and instructions to the Panel regarding the Delphi method

'The Delphi method is a technique used to generate ideas and facilitate consensus among individuals who have special knowledge to share, but who are not in contact with each other. The facilitator of the Panel (Jon Mould) invites individuals who have knowledge necessary to analyse a specific problem.

Using (in this instance) e-mail, the facilitator sends questions and background information to individuals who have been selected on the basis of the relevance of their expertise. These people will reply, stating their thoughts on the statements and are invited to make any amendments they think will enhance the paediatric admission procedure. The facilitator will then compile these ideas to develop a concrete proposal, set of guidelines, or wording for an agreement, and will send this out again for comment. The process is continued until agreement on the wording or process or action to be taken has been reached. The next paragraph is a brief overview of what I am researching.

The original text for the admission procedure (see Figure 4.1) was labelled as the 'Quality Statements' which were sent as the 'First Wave' of the Delphi method to each Panel member via e-mail. Some of the statements about nursing practices applied to both children and the principal caregivers whilst others were only applicable to either the child or the caregiver. Using open ended statements or questions is generally used in the first wave of the Delphi method as these can assist in obtaining information from the Panel (Custer, Scarcella, & Stewart, 1999; Kerlinger 1973). Panel members were asked to review the admission procedure quality statements and make any additions or amendments to them as related to their professional experience and expertise in the matter of good practice when a child is admitted to hospital. For example, if Panel members felt any significant practices had been omitted, they would add these to the statements. In addition, they were asked to amend any statements which in their experience, could be phrased in a more explicit manner. The First Wave review was designed to determine if consensus could be reached as to whether the 24 quality statements had face validity and whether the 15 experts agreed with the emphasis from the literature as to their relevance for use as quality measures to answer this dissertation's research question. Panel members were asked to return the statements within a calendar month. Although a minimum of 45 days was the recommended time to allow for responses (Delbecq, Van de Ven, & Gustafson, 1975), technology now allows for more rapid feedback (Witkin & Altschul, 1995).

4.2.6.1 Refinement of the Delphi First Wave results

Analysis of the responses to the First Wave of the Delphi Panel identified 24 quality statements as having face validity (see Figure 4.4), this reinforcing the emphasis from the literature as to their relevance for use as quality measures for this dissertation. Suggestions and modifications to the 24 quality statements were consolidated and applied to the quality measures for the Delphi Second Wave data collection activity.

4.2.7 Delphi Second Wave data collection

In the Second Wave, the Delphi Panel was asked to focus upon identifying the most important quality interactions between the nurses and the child receiving care, and their family. The responses from each of the Panel members were collated into one document by the researcher. Each response was matched to the pertinent quality statement giving a set of 15 separate sentences relating to each measure. None of the original statements were deleted by the Panel members but were refined and some were separated into two measures, for example, the introduction was separated into getting to the child's eye level and RNs should be aware of carers' body language (see Appendix B). The complete admission check list of quality measures (see Figure 4.5) was then returned to Panel members as the Second Wave of the Delphi method.

Figure 4.3 First wave consolidated quality statements for the admission procedure

1. The nurse should introduce themselves to child and caregiver(s) by name (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008; Weller, 1986).
2. The nurse should acknowledge the caregiver(s) body language (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008).
3. If the child can talk, the nurse should engage them in social conversation which may involve getting to their eye level. If the child is a preverbal toddler this may include making eye contact and saying simple repetitive phrases (Kyle, 2008; Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Weller, 1986).
4. The nurse should clarify if the child has a preferred name and should address them by this name. The nurse should clarify how the caregiver(s) wish to be addressed (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008).
5. The nurse should discover if the child has been in hospital before and if so, the nurse should establish if they are likely to remember it. If the child can talk the nurse should ask them what they know about coming to the hospital (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008; Weller, 1986).
6. The nurse should fully explain the admission procedure to the caregiver(s) so if needed they can explain to the child (Hockenberry & Wilson, 2007; Osteogenesis Imperfecta Foundation 2006; Van Horn, DeMaso & Lefkowitz, 2003).
7. The nurse should negotiate with the caregiver(s) their level of participation in care giving (HDWA, 2006; ACPCHN, 2005; Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008; Weller, 1986).
8. When explaining things to the child and caregiver(s), the nurse should use age appropriate language and concepts (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Weller, 1986).
9. If the child can talk the nurse should intentionally connect with them e.g., explaining to the child what is happening using words and phrases they are able to understand i.e. appropriate for their developmental age (Kyle, 2008; Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Weller, 1986).
10. The nurse should help the child through the admission procedure and demonstrate sensitivity using strategies to deal with a child reluctant to engage in any part of the admission procedure and not appear to rush them by showing patience and tolerance (Kyle, 2008; Hockenberry & Wilson, 2007).
11. The nurse should discover if the child has special names for certain things such as wanting the toilet or food (Kyle, 2008; Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006).
12. The nurse should establish informed consent from the caregiver(s) to conduct a physical assessment. The nurse should tell the child what they are doing and why (Hockenberry & Wilson, 2007; Weller, 1986).
13. The nurse would involve the caregiver(s) in procedures. If the child appears to be frightened or reluctant during the procedures, the nurse should be sensitive to cues. The nurse should use a toy such as a doll or teddy bear the child is familiar with in an attempt to help them feel more at ease (RACP, 2008; AWCH, 2008; CHA, 2008; Kyle, 2008).
14. If the child appears bored or restless, the nurse should recognise this and offer to provide appropriate developmental activities (Kyle, 2008; Klossner & Hatfield, 2006).
15. The child is orientated to the ward e.g., they are shown around the ward and areas are pointed out such as the toilets, they are asked if they want to see the play area/ room or where toys and books are kept etc (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008; Weller, 1986).
16. The caregiver(s) are orientated to the ward e.g. shown areas such as parent's/ caregiver's bathroom facilities (Kyle, 2008; Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Weller, 1986).
17. In each step of the procedure where the child needs to do something (for example stand on the scales) the nurse should use positive feedback when they cooperate (Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2008).
18. If the child can talk the nurse should ask if they have any questions (Hockenberry & Wilson, 2007; Weller, 1986).
19. The nurse should ask the caregiver(s) if they have any questions (Hockenberry & Wilson, 2007; Weller, 1986).
20. The nurse may introduce the child and caregiver(s) to other children/ families on the ward (Kyle, 2008; Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Weller, 1986).
21. The nurse should introduce the child (in an appropriate developmental manner) and caregiver(s) to other members of the ward team (Kyle, 2008; Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Weller, 1986).
22. The nurse should explain to families how to contact staff if they need assistance (Hockenberry & Wilson, 2007).
23. Written information with contact details, etc should be provided (Glasper, Battrick & Hain, 2011; Hockenberry & Wilson, 2007).
24. If known, the nurse should provide a brief overview of planned care and where possible length of stay to caregiver(s) (Hockenberry & Wilson, 2007; London, Ladewig, Ball & Bindler, 2007; Rudlin, 2011; RCH, 2010).

4.2.7.1 Analysis of the Delphi Second Wave results

When the statements were returned, sentences or suggestions from the quality statements which were repeated by different Panel members were deleted. New suggestions were added to the original First Wave quality statements and reconfigured as a presentation of measurable actions; that is, into a succinct list of quality statements. The first two waves of the Delphi process resulted in an admission check list with 24 separate quality measures of good practice. The list of QMs included suggestions from Panel members as to how the RNs may demonstrate their achievement of a measure. This is an acceptable modification to the Delphi method as it utilised the information provided by the Panel to develop the research tool further (Hsu & Sandford, 2007). An example of the formulated Second Wave responses is displayed in Figure 4.5.

Figure 4.4 Example of the collated responses from Delphi Panel first two waves

Quality Measure
The RN should introduce herself/ himself to the child and the caregiver(s) by name usually within 10 seconds of entering the room/ area. This may be affected by the type of admission for example, in an emergency.
The RN should acknowledge the caregiver(s) body language within one minute. For example, if the caregiver(s) appear frightened or extremely anxious or appear hostile/ angry does the RN acknowledge this?
If the child can talk, the RN should endeavour to engage the child in social conversation which may involve getting to the child's eye level to greet the child. If the child is a preverbal toddler is this social engagement may include making eye contact and saying simple repetitive phrases.
The RN should clarify if the child has a preferred name. The RN should address the child by this name. The RN should clarify how the caregiver(s) wish to be addressed.
The RN should endeavour to discover if the child has been in hospital before. If the child has been in hospital before, the RN should endeavour to establish if the child is likely to remember being in hospital. If the child can talk the RN should ask the child what they know about coming to the hospital. For example, if it is a planned/ booked admission, written information may have been sent and the RN might ask the child if they know what a thermometer or a blood pressure machine/ device does.
The RN should fully explain aspects of the admission procedure to the caregiver(s) so if needed they can explain to the child. For example, the need for the child to stand or lay in the scales to weigh the child. This should also include an explanation how the RNs function on the ward – e.g., explaining what a named RN is and saying "I am your named RN".

4.2.8 Delphi Third Wave data collection

After the Second Wave responses were received, a similar process to that of the First Wave was completed. Initially, 15 suggestions for QMs were accepted and amendments were placed under each of the 24 quality measures on the check list. Repetitions were deleted and the responses were collated into an amended admission check list of 24 quality measures which should be used when a child is admitted to hospital.

This process revealed that a consensus amongst Panel members was beginning to emerge because the experts were suggesting similar amendments or additions to the measures. For example, they were agreeing that certain things should occur within specific timeframes and Panel members made comments on how the QMs may be used during the admission procedure. They included additional suggestions of what RNs may do in terms of communication and interventions to enhance the quality of the interaction between the RNs and the family; these are displayed in italics in Figure 4.6. Additional columns were added to indicate whether the QM applied to the child and the carer or specifically to either one. The QMs were revised and refined according to the content from the experts. It also became apparent that some experts were confused as to whether a marker applied to the child or the principle caregiver. To assist the Panel with clarity, the researcher included the QMs in a tool with tick boxes with shading or not. If the box was unshaded, it indicated to whom the QM pertained - the child, caregiver or both. If the box was shaded, it did not apply to the child or the caregiver. This tool was devised so that it would enable the researcher to determine if the marker was achieved or not during the data collection (see Figure 4.6 and Appendix C). After clarifying with the experts that the researcher's interpretation of additions and amendments was correct, the responses were collated and refined for the final iteration/ wave.

Figure 4.5 Examples of QMs from the Third Wave

Quality Measure	Child	Carer
1. The RN should introduce herself/ himself to the child and the caregiver(s) by name usually within 10 seconds of entering the room/ area. This may be affected by the type of admission for example, in an emergency.		
2. The RN should acknowledge the caregiver(s) body language within one minute. <i>For example, if the caregiver(s) appear frightened or extremely anxious or appear hostile/ angry the RN should acknowledge this.</i>		
3. The RN should fully explain aspects of the admission procedure to the caregiver(s) so if needed they can explain to the child.		

4.2.9 Quality Measure (QM) development: Fourth (final) Wave

By the third wave of implementation of the Delphi technique, 100% consensus had been achieved among all Panel members that the 24 QMs were essential for good practice when admitting a child and their family or carer to hospital. Some of the Panel had preferences for the wording of the QMs; for example *endeavour* was a preferred phrase over *attempt to* but the experts agreed that the essential content of each of the QMs should be used in admission of children and their families to hospital. Thus, consensus was obtained from the Panel that the QMs reasonably represented the behaviours that would be expected from and observed between about educated clinician and a child and their family during admission to a hospital. In

other words: good or quality care could be observed if the QMs were used. For the fourth and final iteration/ wave, the Panel was asked to prioritise the consensus markers to eliminate any overlap of behaviours, and to identify the most salient markers for good quality care. This decision to reduce the number of markers is reinforced by Fuller et al. (2009) who contend that having too many observational criteria can result in an unsuitable data collection tool in observational research.

The researcher asked the Panel to identify the ten most important behaviours (that is the QMs) and then rank them from one to ten (with one being the most important). The Panel were also asked to identify which (if any) of the markers would differentiate a SPN from a NSPN. For example, many of the admission documents have prompts such as words used by an infant or toddler for a particular object or action. SPNs are more likely to do things which are not prompted by questions written on an admission form. For example, the RN getting down to the child's eye level etc ... Identifying these helped develop a useful, succinct tool to be used during the data collection.

Results from the fourth wave showed that two Panel members were not able to prioritise the markers as they felt they were all pertinent and six Panel members did not identify specific markers for specialist paediatric RNs. Panel ratings of the QMs showed that there was 100% consensus on the content of the 24 quality markers, and 86% consensus on which specific QMs were the priorities. In addition, 60% of the Panel could highlight which of the QMs would differentiate a SPN from a NPSN. While there is no prescribed range of what percentage of consensus is needed as a cut-off point, more than 70% has been suggested as a minimum (Green, 1982; Miller, 2006; Ulshak, 1983). However, Linstone, and Turoff (1975) reported that percentage measures are an inadequate means of deciding upon what consensus is. Thus, the 86% agreement on the prioritisation of the 24 QMs was accepted.

Panel responses were ranked by allocating a numerical value: a score between one and ten points being given with ten being the highest. This enabled the markers to be prioritised and QMs ranking could be established. For instance, if the Panel member scored a measure as number one, this was allocated ten points or if a Panel member scored a measure a priority number two, this was allocated nine points. This was continued through to priority ten being allocated one point. The measures which did not receive a priority by any Panel member were given a score of 0. Some of the measures could be achieved by following the question prompts

on the admission form for example; quality statement 11, in Figure 4.3, is included in many in-patient hospital admission forms: "... does the child have special names for things such as the toilet ...". Thus, the RN would meet the marker by simply following the admission form.

Therefore, panel members were asked to indicate which of the measures would identify a specialist paediatric RN from a non-specialist paediatric RN. These particular measures were then allocated 20 points by the researcher to reflect their high priority. The first part of the score sheet is displayed in figure 4.7 and the full score sheet is in Appendix D. The scoring system is in Appendix E.

Although the Panel were asked to prioritise ten of the most important QMs, the differential between scores became greater after the top seven were chosen. Therefore, using the scoring pattern in figure 4.7, a final list of seven QMs was developed from the Panel's responses and incorporated into the behavioural observation data collection tool. The Delphi Panel was informed of the outcome of their work and sent a copy of the final data collection score sheet.

4.2.10 Paediatric admission process quality measures

By using the above process, seven paediatric quality measures were identified as most important by the Panel and utilised by the researcher during observational data collection (see Figure 4.8). Before the main data collection began, a pilot test was conducted using a simple number system to score whether the QMs were met or not. The score would be entered in the appropriate right hand columns of the data collection form. The number 3 indicated the RN met the marker; number '2' meant the RN did not meet the marker and a number '1' meant the marker did not apply, for example, a child demonstrates no anxiety during the admission procedure. This numbering system was used during the analysis of each of the videos of the sample during the admission procedure. The observational data collection tool with the final ranked priorities is presented in Figure 4.8.

Figure 4.6 Score sheet for QMs

R = REVIEWER: P = PRIORITY: PM = PRIORITY MARKER;															
QM	R 1	R 2	R 3	R 4	R 5	R 6	R 7	R8 & R9 unable to prioritise	R 10	R 11	R 12	R 13	R 14	R 15	
1. The RN should introduce self to the child and the caregiver(s) by name usually within 10 seconds of entering the room/ area. This may be affected by the type of admission e.g., emergency.	P1		P1	P1		P1	P1		P2			P1		P1	
2. The RN should acknowledge the caregiver(s) body language within one minute.		P1	P7			P2			P1		P2	P2			
3. If the child can talk, the RN should endeavour to engage the child in social conversation which may involve getting to the child's eye level to greet the child. If the child is a preverbal toddler is this social engagement may include making eye contact and saying simple repetitive phrases.	P2	P2	P3	P3	P1	P9	P3		P3		P1	P3	P2 Pm	Pm	
4. The RN should clarify if the child has a preferred name. The RN should address the child by this name. The RN should clarify how the caregiver(s) wish to be addressed.			P4	P2	P3							P4		P4	
5. The RN should endeavour to discover if the child has been in hospital before. If the child has been hospitalised before, the RN should endeavour to establish if the child is likely to remember being hospitalised. If the child can talk the RN should ask the child what they know about coming to the hospital.	P3		Pm	P4			P2				P	P5	P3 Pm	P3	
6. The RN should fully explain aspects of the admission procedure to the caregiver(s) so if needed they can explain to the child.		P6												P6	
7. The RN should endeavour to establish/ negotiate with the caregiver(s) their level of participation in care giving.	P5 Pm		P2 Pm	P9	P3		P5							P7	Pm
8. When providing the explanation to the child and caregiver(s), the RN should use age appropriate language and or concepts and use culturally appropriate language. The RN should assess if the child and caregiver(s) have understood the explanations by reframing their responses.	P5 Pm	P4	P8	P5 Pm	P4 Pm	P5	P4					P	P8		Pm
9. If the child can talk the RN should intentionally endeavour to connect with the child.	P5	P3	P2		P5 Pm	P4						P	P9	P	
10. The RN should endeavour to help the child through the admission procedure and demonstrate sensitivity and use strategies to deal with a child reluctant to engage in any part of the admission procedure and not appear to rush the child by showing patience and tolerance.	P6	P5	P10		P8 Pm	P6 Pm	P6		P6			P	P10	P	
11. The RN should discover if the child has special names			Pm		P7		P7								

Figure 4.7 Final seven QMs for the admission procedure

Quality Marker	Child	Carer
1. If the child can talk, the nurse should endeavour to engage the child in social conversation which may involve getting to the child's eye level to greet the child. If the child is a preverbal toddler, this social engagement may include making eye contact and saying simple repetitive phrases.		
2. The nurse should endeavour to discover if the child has been in hospital before. If the child has been in hospital before, the nurse should endeavour to establish if the child is likely to remember being in hospital. If the child can talk the nurse should ask the child what they know about coming to the hospital <i>e.g., if it is a planned/ booked admission, written information may have been sent and the nurse might ask the child if they know what a thermometer or a blood pressure machine/ device does.</i>		
3. The nurse should endeavour to establish/ negotiate with the caregiver(s) their level of participation in care giving.		
4. When providing the explanation to the child and the caregiver(s), the nurse should use age appropriate language and or concepts and use culturally appropriate language. The nurse should assess if the child and caregiver(s) have understood the explanations by reframing their responses.		
5. If the child can talk the nurse should intentionally endeavour to connect with the child. This may be demonstrated by the nurse explaining to the child what the nurse is going to do using words and phrases the child is able to understand i.e. appropriate for the child's developmental age <i>e.g., telling the child a thermometer is going to touch their ear and it will make a beeping sound or oral medications may taste "a bit yucky".</i>		
6. The nurse should endeavour to help the child through the admission procedure and demonstrate sensitivity and use strategies to deal with a child reluctant to engage in any part of the admission procedure and not appear to rush the child by showing patience and tolerance <i>e.g., coaxing and positive reinforcement and the child is actively involved in the procedure. The child and caregiver(s) are encouraged to ask questions.</i>		
7. The nurse would involve the caregiver(s) in procedures. If the child appears to be frightened or reluctant during the procedures, the nurse should be sensitive to cues. The nurse should use a toy such as a doll or teddy bear the child is familiar with in an attempt to help the child feel more at ease with parts the admission procedure <i>e.g., the nurse would ask the caregiver(s) if they can demonstrate temperature taking on them or on a familiar toy before moving to the child.</i>		

In summary, the QMs were developed by an international Panel of experts who agreed on which of the quality statements were priorities during the admission procedure. The Delphi Panel offered a global perspective of best practice in paediatric admissions which could be observed thereby reducing threats to the content validity and for this study. The Delphi method was used effectively to achieve consensus and develop a tool to measure best practice during the admission procedure. Thus, the tool in itself is a new contribution to the existing body of knowledge in this field.

4.3 Stage four: Observational research and data collection

Observational data collection of paediatric nurses during the admission procedure to answer whether the identified quality behaviours are being observed during the admission procedure?

Observational research is defined as data collected by observing and recording behaviour or activities (Pollit & Beck, 2006). Included in this observing are structured behaviours which are "... predetermined and listed on a check list ... and checked off ..." (Borbasi, Jackson & Langford, 2008, p.169). This method also allows for observation of how people behave and interact within their surroundings (Mulhall, 2003). Mulhall also asserts that observational research can control for the Hawthorne Effect which is a significant threat to validity. Therefore, before describing other benefits and threats to validity of the observation methodology, the Hawthorne Effect is described in some detail below.

4.3.1 The Hawthorne Effect

The Hawthorne Effect is a term used to describe the potential for the observation process to alter participants' behaviour. The phrase was first described after a longitudinal experiment which was conducted in the 1920s. The experiment involved observing factory workers' behaviour in an electric corporation in Hawthorne, Illinois, in the U.S. Workers productivity was analysed when working conditions were changed, such as scheduled breaks and changes in the brightness of lighting. The experiment also included changing all the conditions back to the original form, prior to any changes being made. What researchers found was that workers increased their productivity every time a change was introduced. The researchers concluded that it was the influence of being observed which brought about the change rather than the changed conditions within the factory (Jones, 1992).

When applied to this research, the Hawthorne Effect could potentially have affected the observed nurses because they were aware they were being observed. Therefore, they may have intentionally altered their usual behaviour because they were being observed. This was a threat to validity of this research.

Although much has been published about the Hawthorne Effect, not all researchers agree it is a true phenomenon (Shuttleworth, 2009). Fox, Brennan and Chasen (2008) observed obstetricians' assessments and compared this with the clinical assessments of the pre-observation assessments. They concluded that clinical accuracy is unlikely to be altered as a result of the clinicians being observed. Shuttleworth (2009) argues that as time passes, the

subjects are more likely to become accustomed to the research method. Similarly, Mulhall (2003) argued that initially behaviour may be affected but busy professionals cannot maintain behaviour which does not come naturally to them they soon revert to their normal behaviour. Notwithstanding these assertions about the negligible affects of the Hawthorne Effect, it poses a threat to validity. This threat to validity was addressed through the use of pre-test observational data collection to enable nurses to become comfortable with the observation process and with the presence of the video camera during admissions. Each nurse was video recorded conducting a minimum of two separate admissions of children to hospital. The first pre-test admission was not used during the data analysis but used to help overcome the potential Hawthorne effect.

4.3.2 Observation research using video

Research Question Four: Which, if any, observational data collection activities of paediatric RNs during the admission procedure can feasibly be used to collect valid and reliable information with which to answer whether the identified quality behaviours are being practised during the admission procedure?

Using video observation enables both visual and audio data to be captured in detail (Borbasi et al., 2008). Subtle and concurrent behaviours can be recorded (Paterson, Bottorff, & Hewatt, 2003). In addition, video recorded data is more accurate and credible than relying on the opinion or the memory of an observer (Paterson et al., 2003). Previous research using video observation has been able to monitor nurses' behaviour and their communication skills during patient interactions successfully (Andersen & Adamsen, 2001; Lotzkar & Bottorff, 2001; Uitterhoeve et al., 2008). For example, Andersen and Adamsen (2001) documented interactions between nurses and patients who were undergoing radiation therapy for cancer, concluding that video "... can document accurately interactions and behaviour ..." (p. 257) between nurses and patients.

A significant problem in using video observation is the potential anxiety aroused by being in front of a camera (Nilsen & Baerheim, 2005; Paul, Dawson, Lanphear, & Cheema, 1998). Indeed, during the recruitment stage of this research, several nurses expressed concern about the camera being in the room. These nurses articulated their feelings of self-consciousness due to the video camera's presence. However, ways to address research subjects' concerns include thoroughly describing the research process and emphasising to participants the purpose of the research as this should "... decrease apprehension ..." (Nilsen & Baerheim, 2005, p.5). The research process was presented to the nurses at site-level team meetings. The video camera

was shown to them and a brief explanation given about the QM development. At no stage were they told what the QMs were as this could have created a proclivity in the RNs to ensure that the QMs were met. During the meetings, it was emphasised that the RNs should try to conduct the admission procedure in their usual manner. Nilsen and Baerheim (2005) also advocate that each participant is treated as an individual so that the personal style of the participant can be expressed. The RNs were reassured that this was not a review of their work practices and that no one other than the research team would have any access to the videos.

Another issue which seemed to have helped relieve some of the anxieties expressed by the RNs was by informing the participants that they would be filmed during more than one admission. This was demonstrated in the Paul et al. (1998) study of medical students' feedback where more than one episode of filming helped reduce anxiety. Also, during the site level meetings, the Hawthorne Effect was explained and given as the reason as to why more than one admission being video recorded.

Observation research can be overt, meaning the sample is aware they are being observed, or it can be covert meaning the observer is concealed with the participants being unaware they are being observed. The benefit of covert research is participants are more likely to behave naturally if they are unaware of being observed. But there are ethical problems of this type of data collection (Centres for Disease Control and Prevention [CDCP] p.1 2008). Covert or concealed research means that people involved in the research cannot give their informed consent and this not respectful to the sample (National Health and Medical Research Council, 2007).

Observational research can also be direct or indirect. Direct observational research means the interactions or behaviours are being watched as they occur whilst indirect observational research refers to the time of a researcher's observation of the results of the interaction (CDCP, 2008). An example of this would be observing children's/ families' behaviour after the admission procedure to see if they demonstrated less anxiety if all of the QMs were met. However, this was not the purpose of this research. The purpose was to develop and test the QMs to determine if specialist education in paediatric nursing affected the quality of the admission, as determined by the literature and the Delphi Panel. Hence, the style of observational research used in this study was direct and overt, meaning the nurses were aware their actions and behaviour were being recorded during the admission procedure they had consented to be part

of the process and their agreement to be included anonymously in the data collection and its evaluation purposes for this dissertation.

Observational data collection is a lengthy process (Borbasi, et al., 2008). To gain cooperation of the sample, researchers generally have to be accepted by the group being studied, unless the observation is covert (Bell, 2005). Bell goes on to say that it is advantageous to do the same job as those being studied. Prior to this study, the researcher had worked at both research sites and was well known in each; therefore, acceptance was not a threat to the research process.

Other methods to capture the behaviours include taking of field notes but these rely upon the researcher's interpretation and memory of the events (Mulhall, 2003). Also, Emerson, Fretz and Shaw (1995) argued that if the notes are recorded during the event, then there is a risk that some behaviour may be missed due to the researcher concentrating on writing the observed events. The procedure could have been tape recorded but audio cannot capture any non-verbal behaviour (Paterson et al., 2003). The RNs could have been interviewed as to what they deem as high quality care during the admission procedure but this would not have enabled the researcher to observe behaviours and this was a central to this research: to observe if SPNs behave differently to NSPNs in terms of how they interact with children and their families during the admission procedure. Therefore, video observation research was considered the most suitable method for this research. Video observation enabled the capture of nurses' behaviour and interactions with children and their families and enabled the researcher to observe the quality of the interaction.

The foremost consideration when deciding to use this method is whether or not it is possible to observe the phenomenon of interest, that is, could video capture whether the QMs were being achieved or not? Video is more efficient than field notes due to the researcher not influencing the event and behaviours are not missed when taking notes. By analysing the videos, it was possible to see if nurses met the QMs.

Although attitudes cannot be observed, behaviour can be and inferences can be made about attitudes through the observed behaviour (QuickMBA, 2010; Sahney, n.d.). Using video observation enables both visual and audio data to be captured in detail (Borbasi et al., 2008). For example, facial expressions could be recorded as this may have indicated how comfortable the caregiver[s] was with the admission procedure.

The observation method in this research was looking to see if particular behaviours were present i.e. whether or not the nurses met the QMs. It was possible to see if the behaviours were present and it was possible to score if the QMs were met or not. Another principle benefit of using video observation for this research is the video enabled the independent reviewer to validate the findings, thereby enhancing validity (Caldwell & Atwal, 2005; Macnee & McCabe, 2008). In addition, Caldwell and Atwal (2005) affirm that using video ensures reliability because if this method was repeated, it would be possible to replicate the findings.

Finally, the observational method enabled the researcher to collect other in-depth qualitative data during the procedures. This was behaviour which was not included as outcomes of the QMs but many of the RNs were observed exhibiting these behaviours during the review of the videos. These additional observed behaviours may also have an impact upon quality care and included children and families being left on their own by the RNs for long periods. What was also observed during several admissions was the completion of the admission form before assessing or examining the child. Another example noted was the RNs standing over the child and family during the procedure. All of the additional observed behaviours are listed in Chapter Five, Section 5.6.

Prior to describing the recruitment of the sample, ethics approval was granted and this is described below.

4.3.3 Ethics approval

Ethics approval was obtained from the University's Human Research Ethics Committee and from both of the hospitals' Ethics Committees. Annual reports were submitted to the University and participating hospital ethics committees. The initial ethics approval date was January 2008 from the University, then April 2008 from the primary research site (hospital one) and lastly, June 2008 from the second research site (hospital two). The approval was initially granted for three years. A request for an extension was made and approved in April 2011 so that an additional on-line survey of the sample could be conducted.

4.3.4 Nurse (RN) sample and recruitment

The sample for this research was RNs and not the children or their families. Although not part of the sample, children and families were essential to the testing of the QMs. Thus, children were part of this research and were captured on the videos. Therefore, a letter of explanation was given to parents who agreed to be part of the observation and a consent form was signed (see

Appendices F and G). Confidentiality was emphasised to the parents who were assured that only the research team would see the videos. In addition, each RN was given a letter explaining the research and was asked to sign a consent form which reiterated confidentiality (see Appendices H and J). The RNs' demographic details were recorded (see Appendix K) and these were kept by a research assistant until after the observational data were analysed to remove any chance of researcher bias due to his knowing the educational background of the research sample.

As nurses caring for children were specifically targeted, the sample in this research is classed as purposive. Purposive samples are a targeted population within a specific predefined group (Burbasi et al., 2008; Trochim, 2006). Two hospitals in Western Australia to which children are admitted were chosen as the research sites. The two hospitals have the most paediatric admissions per year which is why they were chosen. The Director of Nursing from each hospital was approached by the researcher and asked if their hospital would participate in the study. The chief nurse at each site gave permission for the research to be conducted and unit managers were informed about the research at an informal meeting at each site. Any concerns which the managers raised were explained and reassurance was given regarding the protection of nurses, children and families from any adverse effects of the research. For example, a ward manager was concerned that the nurses on the wards would choose which children would be observed. The process was explained regarding getting consent from families and that only the researcher would approach the families; the manager was reassured. It was also reiterated that no pressure would be put on the nurses or families to participate in data collection.

During the recruitment, some of the RNs asked reasons why the researcher could not simply watch them and take field notes or, use audio to record the targeted behaviours. These RNs indicated more enthusiasm about participation had the researcher 'just watched them' or used an audio recording device. Some of the RNs expressed concern about being 'judged on' their skills or knowledge. Others said they would feel embarrassed about being filmed. The nurses were all reassured that they were not being 'judged' per se as either good or bad. It was further explained that their behaviours were being observed to determine if they met certain quality measures during the admission procedure. Also, individual observation using field notes could introduce the possibility of "missing" important behaviours while recording or causing anxiety in the children being admitted. The research cohort finally agreed that the approach to be taken of using a video camera was the least obtrusive and the most accurate method of collecting data.

The RNs having consented to be part of the sample accords with Greenwood (Cited in Minichiello, Sullivan, Greenwood & Axford, 2004, p. 320-346) who describes this as Face Validity because if the sample in research think the method is valid, it is more likely to take the process seriously. However, Trochim (2006) describes Face Validity as a potentially subjective judgement, being met if the method used seems to measure what it sets out to measure. By showing the nurses the camera and explaining the importance of observing their behaviour, the validity of the video observation method was accepted by them as an appropriate way to capture the data. The College Board (2011) describes Face Validity as a simple way to describe why specific tools are used.

Demonstrating the equipment assists in ensuring the validity of the method because if the research purpose and design were not explained to the RNs or, were they were not shown the camera, face validity of the research method would have been threatened (College Board, 2011). Several RNs not recruited in the study spoke positively to their colleagues about the research and the data collection and this assisted with the general recruitment of the sample.

4.3.5 The final sample

Specialist or high dependency areas in the hospitals such as the intensive care unit, the operating theatre department, the oncology unit and the emergency department were excluded because parents and families are generally under more stress in these areas. Therefore, in order to minimise potential adverse effects (Commonwealth Government of Australia, 2007) high dependency areas were excluded.

A total of 206 RNs were working in the data collection sites, this number included part-time workers, but not the amount of whole time equivalent nurses. This information was provided by the ward or departmental managers who were also able to substantiate how many of the nurses were specialist and how many were non-specialist nurses; of the 206 RNs, 68 were SPNs. A power calculation was undertaken to ascertain the total number of nurses needed for a representative sample (see Figure 4.9). The significance level was set at 0.05 or 5%, the confidence level was set at 0.95 or 95%, and the resulting minimum sample size required for the observational data collection component of the project was 64. This was based upon the minimum number of specialist nurses being 30% of each ward and maximum of 70% being non-specialist nurses. Sample exclusion criteria included the categories of enrolled nurses and new

graduates⁶. This ensured that the entire sample had worked within paediatrics for a minimum period of one year.

In total, 96 RNs were approached to participate in this research. Of these, 12 refused, mainly citing that they did not want to be filmed resulting in 84 RNs being recruited. Six of the RNs recruited worked on a part-time basis and were never on duty during the data collection times, or were finishing a shift when a suitable child was to be admitted; thus they were never filmed. Ten of the sample was filmed during one admission only and these were not included in the data analysis. Of the ten nurses filmed once, two left due to pregnancy, four resigned from the hospitals and the other four moved to other areas which were not included in the research site such as the high dependency areas. Therefore, the final sample consisted of 68 registered nurses (RNs). Some had a specific paediatric nurse qualification (n=24) [specialist paediatric nurses (SPN)] (n=24) and some were RNs (n=44) without a specific paediatric nursing qualification [non-specialist paediatric nurses (NSPN)].

⁶ New graduates are newly qualified RNs who are supported during the transition from student to RN in their first year as nurses. The graduate year is when they are expected to consolidate their knowledge and clinical skills whilst being supervised by more experienced nurses (DoHWA, n.d. a).

Figure 4.8 Power calculations to determine sample size

Confidence Level	<input checked="" type="radio"/> 95% <input type="radio"/> 99%
Population Size	206
Proportion (p)	0.6
<input type="radio"/> Confidence Interval: $p \pm$	0.1
Upper	70000
Lower	50000
<input type="radio"/> Standard Error	0.05102
<input type="radio"/> Relative Standard Error	8.50%
<input checked="" type="radio"/> Sample Size	64

Whilst it would have been ideal to have equal sized stratified groups each having similar ages and experience, this was not possible in the areas used for the research because there are more than twice as many NSPNs working in the research areas as SPNs. The RNs were observed during the admission procedure to determine if there was any difference between the two groups in meeting the QMs. To ensure the minimum number of participants was achieved a larger than required sample of 84 nurses was recruited; because it was not the researcher's intention to follow participants in the study should they leave a designated data collection site and move to a non data collection site. This was an important study consideration due to the fluidity of nursing staff in busy hospital wards, and the high turnover of RNs. In addition, a larger number of nurses were recruited in order to account for nurses who might change their minds and no longer want to participate in the research.

4.3.6 Demographic information from nurse subjects.

The nurse volunteers were asked to provide their personal contact details to the researcher but not their level of education because, prior knowledge of this may have caused a bias when analysing the data (see Appendix E). The details were collected by a research assistant engaged by the researcher, who conducted a short interview with the volunteers and recorded their level of education and other demographic details. The research assistant provided a list of

the volunteers to the researcher but the list omitted the nurses' level of education and other demographic details.

Data collected from the nurses included: age, length of time employed as an RN, and any career breaks. This information was recorded because prior nursing experience and the nurses' age may influence clinical behaviours and potentially skew the observational data collected. For example, if a nurse has not done any further training or education in paediatrics but has several children of their own, this is a variable which may affect the quality of interaction when admitting children. Having one's own children could potentially facilitate communication with children. Another variable to affect their interaction was that of an SPN having a lengthy career break from paediatric nursing, for example, learned paediatric skills may have been lost. Analysis was conducted to compensate for these variables. Analysis was conducted to compensate for these variables (see Table 5.33).

The children filmed during the admissions were not part of the sample but were part of the process to measure if the QMs were being met. To minimise variables of developmental stages, the selected age range was toddlers to preschool aged children, that is, from ages one to six. Both emergency and booked admissions were observed for measuring which QMs were being met. An emergency admission is an occurrence when a child arrives at the emergency department without any prior warning or appointments and diagnosed with an illness or injury which necessitates them staying in hospital for treatment. Children classed as booked admissions most often come to hospital for wait-list surgery so the time of the admission is predictable. However, the type of admission is not important for this study because "... children are children before they are patients ..." (English National Board, 1985, p.1). The developed QMs were to be used during emergency and booked admissions (see Section 4.3.3); therefore paediatric nurses should meet the QMs regardless of the type of admission.

4.3.7 Pilot study

Prior to the main data collection, a pilot study was conducted with six nurses. Polit and Beck (2006, p. 56) describe a pilot study as "a small-scale ... of the major study" which is conducted if there are concerns about the study. Macnee (2004) explains that pilot studies can develop measures and demonstrate the validity and reliability of the method. The pilot study in this research was undertaken to test whether the QMs could be observed using the video camera

and to identify any potential problems which the parents or nurses may have during the procedure so that changes to the process could be made prior to the main data collection.

For the pilot study, the six nurses required were recruited at a site level team meeting. During the first three observed admissions of the pilot study, in which three individual nurses were observed once, the camera was mounted on a large tripod in the middle of the room. This proved to be cumbersome and a potential trip hazard because the camera could not be left unattended. In addition, the first three nurses who were filmed reported that the researcher's presence increased their level of anxiety as they felt their actions and behaviours were being judged and they found it harder to behave naturally.

On the basis of this participant feedback, subsequent pilot study admissions were filmed using a camera placed on a table top tripod and mounted near to the child's bed such as on a locker top or on a window sill, depending on the room available for the admission. The pilot study nurses reported less anxiety and the camera mounted on the discrete tripod was effective in capturing the procedure but did not pose a safety threat to staff, children or their families in the hospitals.

Each nurse in the pilot study was assigned a code number which was attached to each admission they undertook for example, PN1/1 which referred to pilot study nurse one, first admission. The instrument (see Figure 4.8) was used as a checklist when each video was reviewed using standard computer software, Microsoft Windows Media Player, to confirm if the nurses in the pilot study met the QMs or not. The instrument had the appropriate code for each admission applied to it, this being implemented to ensure that it could be used to record the behaviours during the review of the video footage.

Conclusions from the pilot study data affirmed that although having the camera in the room during an admission changed the usual environment, the impact of it was usually short lived. All of the pilot study nurses reported quickly becoming immersed in the admission and were soon not distracted by the camera's presence. The nurses' experiences of being distracted matched previous findings from other studies which used a video camera during observation data collection (Bogdan & Biklan, 1998; Schuck & Kearney, 2004). Despite it being short lived, the time taken to get used to the camera does need to be considered (Bogdan & Biklan, 1998). This is the reason why each nurse in the research cohort being filmed more than once. In addition, the children and their families were aware of the camera's presence as the research process

had been explained to them by the researcher. Schuck and Kearney (2004) testify that this helps ensure that behaviour is not adversely affected by the camera.

As these observations helped refine the position of the camera and assured the researcher that the data could be collected, the pilot study minimised any threat to the validity of the research. The pilot study also affirmed that there was no confusion with the information letters or the consent forms for the families.

4.3.8 Main data collection: Selection of admission encounters to observe

This process, like all observational data collection, was lengthy (Baker, 2006; Bell, 2005; Borbasi et al., 2008). The pilot study provided evidence of the amount of time required to obtain four observations of each nurse during an admission process. The initial data collection videos were analysed in order to determine whether the number of video-recorded admissions could be reduced. Therefore, during the main data collection, the first 12 nurses were filmed four times. The videos of these first 12 nurses (approximately 18% of the sample) were analysed using Chi Square to determine if there was any association between the second and fourth admission, a significant association indicating the behaviour was different between the second and fourth instance. The results of the analysis (see Table 4.1 and 4.2) show no significant changes in behaviour between the second and the fourth observations; that is, filming four admissions as opposed to two admissions did not add any more data. The analysis showed that two admission observations were sufficient to obtain reliable and valid data. Therefore, to conserve resources and to speed up data collection, the remaining 82% (n=56) of the sample were filmed during two separate admissions rather than the planned four times as the Hawthorne Effect not appearing to be significant after two observations.

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	12.000 ^a	11	.364	1.000		
Likelihood Ratio	13.496	11	.262	1.000		
Fisher's Exact Test	11.469			1.000		

Table 4.1 Chi Square tests for initial 12 RNs QM1 Child 2

	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)	Point Probability
Pearson Chi-Square	12.000 ^a	11	.364	1.000		
Likelihood Ratio	15.276	11	.170	1.000		
Fisher's Exact Test	11.222			1.000		

Table 4.2 Chi Square tests for initial 12 RNs QM1 Child 4

Validity was controlled for in the main collection activities of observational data using the knowledge and experience gained from the pilot study and by using the following precautions:

- 1) Knowledge and consent of the process by the nurses being observed assisted in gaining the data during the actual admissions; the nurses were aware of being filmed but they did not know which aspects of behaviour were being studied.
- 2) In an attempt to lessen the impact of the observation, the video camera used was a small hand held camera, 12cm in length and 5cm tall. The tripod was 12cm tall and placed upon a cupboard, locker or bed table to get the best view of the admission procedures and behaviours. Through careful positioning of the camera, it was intended to minimise the invasiveness of the process. As a result, the overwhelming majority of the nurses reported that within the first few minutes of the procedure, they were able to focus on the child and ignored the camera's presence. Mulhall (2003, p.308) argues that observational subjects often become comfortable with a camera in the room and a common phenomenon is stating that "once the initial stages ... are past most professionals are too busy to maintain [unnatural] behaviour ..."
- 3) To compensate for the potential of the Hawthorne Effect, other than the first 12 each RN was filmed on two separate admissions with two separate children and their families so that the nurses' would be more familiar with the process and more likely to demonstrate their normal behaviour.
- 4) Only the final admission was to be analysed because it was more likely that the nurses would be familiar with the process and more likely to behave naturally (Shuttleworth, 2009).

4.3.9 Analysis of the data

Upon completion of the observational data collection, all of the videos were initially viewed by the researcher using a standard computer media player and headphones so the nurses interacting with the child and family could be easily seen and heard. Each QM was coded and entered onto the database (IBM [SPSS], 2010). Figure 4.8 above shows all seven the QMs being displayed. QM one and five were only applicable to children whilst QM three was only

applicable to parents so there was only one response for these markers. Standard codes of responses were assigned as to whether or not the QM was met:

- 3 = yes meaning the nurse met the QM;
- 2 = no meaning the nurse did not meet the QM; and
- 1 = not applicable meaning it was not applicable, for example, a child showed no distress so it was not necessary for the nurse to use developmentally appropriate methods to help the child with the admission procedure.

Comments were also recorded verbatim on a database when significant events transpired. For example, if a parent asked a question relating to their child's admission but the question not answered or the nurse gave another explanation which the researcher thought was unusual. These comments were entered into a document so the researcher could analyse if any common themes emerged between the two groups of nurses.

As in the pilot study, each RN in the main data collection was assigned a code number which was entered onto the database (IBM [SPSS], 2010). Only the final admission by each RN in the sample was analysed. Following analysis of whether the QM was met or not, the educational background of the nurses was entered into the database. Using an independent t-test, an overall comparison was made between the two groups to see if one group globally met the QMs more than the other group. Then each QM was analysed against both groups using Chi Square to detect any association between the levels of education and meeting the individual QMs. This would either prove or disprove the null hypothesis which was that NSPN meet the QMs as often as the SPN. Furthermore, using a one-way independent ANCOVA, the QMs were analysed against the independent variables: age, length of time an RN has been registered, and how long an RN had worked in paediatrics.

4.3.10 Reliability of the method

Data which cannot be scored simply as 'right' or 'wrong' needs to be assessed independently by person[s] or judge[s] (Stemler, 2004). The purpose is to estimate the extent to which two or more people agree on the results, using a particular instrument, at a particular time (Stemler, 2004). If two raters score the same or similar for the procedure being observed it increases the reliability or strength of the findings and implies the findings are homogenous (Garson, 2009).

To help ensure the data collection and analysis of the video tapes was reliable, a behavioural psychologist was employed as a second video rater. The second rater was specifically chosen from the profession of clinical psychology because this discipline traditionally has training and expertise in identifying and measuring patterns in behaviour (Flinders University, 2011). Therefore, using the expertise of a behavioural psychologist was appropriate to judge the reliability of the outcomes in coding the data collected. Although clinical psychologists have the skills to capture the observed behaviour, the judgement must also be motivated to capture the required data (Perreault & Leigh, 1989). The second rater demonstrated motivation by submitting a thorough report to the researcher of the findings.

Despite the skills of raters, they are unlikely to agree on observed behaviours 100% of the time, by chance alone (Perreault & Leigh, 1989). In addition, when the data is nominal, averages cannot be applied. Thus, the level of agreement, even when the level of agreement appears to be high, needs affirmation (Perreault & Leigh, 1989). To reduce this potential level of subjectivity, a robust scoring system or rubric needs to be used by the judge[s] (Tierney & Marielle, 2004) so they can more easily and consistently code events, or in the case of this research, state whether the QM was met or not. The raters (the researcher and the clinical psychologist) in this study used a single measurement instrument (see Figure 4.8) to ensure internally consistent reliability. The test-retest of the instrument was consistent when collecting results at different times with different observed nurses and in different locations within the areas in which children were admitted (Polit & Beck, 2006; Trochim, 2006). To minimise any potential lack of consistency, the instrument (see Figure 4.8) was shown to the clinical psychologist with a demonstration of how to use it. The clinical psychologist rater was then given copies of all of the video observations and asked to choose a random selection so that the nurses' behaviour could be scored by him as to whether or not the QMs were met.

The second rater coded a selection of videos using a Random Number Generator. This resulted in a selection of all the admission videos and not just the final admission of each nurse being observed. Also, to ensure the reliability of the second raters' observations on two separate occasions, the same video (admission) was coded twice by the second rater. The second rater was not asked by the researcher to do this but the psychologist explained it was done to check the results for consistency. This additional step helped reinforce the reliability of the method.

The rationale for the analysis of the video data was to identify if there was a difference between SPNs and NSPNs in meeting the QMs and how this was achieved. However, paediatric care involves a complex set of behaviours with numerous educational and experiential factors that could influence the delivery of high quality care. Therefore, it was important to understand more about what influenced the nurses in their day-to-day clinical care of children and their families.

4.4 Online survey

Stage four: Research Question Five: What are the perceptions of the sample of paediatric RNs about the influence of their professional education on their nursing care and behaviour?

To gain a greater understanding of nursing behaviours, this research further explored factors that the nurses themselves perceived as being influential on their behaviour when delivering care to children and their families. This was achieved through an on-line survey after the completion of the video data. For example, other factors having the potential to influence nursing behaviour besides formal education and training include: the nurses' professional experience, mentorship by other professionals, personal experiences and so forth. To obtain this level of detailed information, a short on-line survey was developed by the researcher (see Appendix L) and each nurse in the sample was sent a request via their hospital e-mail account asking them to complete the survey (see Appendix M). It asked each of the observed RNs to identify matters they believe influenced their behaviour when providing paediatric care. This additional step gave a better understanding of the observed behaviours by individual RNs and the associations between observed behaviours and specialty education. This survey was developed specifically to explore factors which the nurses themselves perceive as influential on their behaviour during the admission procedure. As such, it is a unique instrument which could only be validated if the level of information gained from the RNs met the above factors.

Each RN was sent a written description of the survey and why it was needed. It also contained a URL which was a direct link to the survey. SurveyMonkey (2011) was used as it was considered easy to use by nurses working clinically who may not have been familiar with survey instruments. The more straight forward surveys are the better the response rates (de Vaus, 2004). To get as high a response rate as possible, nurses who failed to complete the survey were sent one follow-up e-mail reminding them about the survey and its importance.

4.4.1 Analysis of the survey

The results of the survey were analysed using SurveyMonkey (2011) which produced percentages for each question answered by the RNs about what influenced their behaviour as a

nurse caring for children and their families. There was also a free text box in which the researcher asked the nurses to complete concerning other influential factors not included in the instrument. A content analysis was undertaken on the comments and these are presented in the next chapter.

4.5 Summary of the methods

This chapter has described the four stage design of the research and how a mixed methods research methodology was used to collect the data relating to the admission procedure. Quality in health care is no longer just about outcomes or doing no harm. Quality in this study concerns whether RNs demonstrate best practice as defined by the Delphi Panel during interactions with children and families when they enter the health care system. Utilising experts in the field of paediatric nursing an adaptation of the Delphi technique was employed to gain consensus. Polit and Beck (2006) describe how this method enables researchers to obtain written judgments from a Panel of experts. Consensus by the Panel enabled the development of a tool to test the quality of care during the admission of children into hospital. The chapter included the manner of sample choice and how the sample size was determined. A principle measurement was to observe by video recordings if quality in paediatric nursing, during the admission procedure, could be detailed, and whether the RNs' behaviour is affected by the level of their particularised education, or whether other factors affect the quality of care. The latter was investigated using an on-line survey to determine other potential influences on nurses' quality behaviours. The importance of reliability and validity were explained and how this was determined in this research.

The next chapter displays the results from the data collection for the two groups of nurses. It includes any statements or examples of behaviour observed by the researcher when analysing the video recordings and the results of the RNs' perceptions of what influences their day to day paediatric nursing practices. The interrater reliability analysis is also reported. Finally the results of the survey are provided and discussed.

Chapter 5: Results and analysis

5.0 Introduction

The purpose of this research is to explore the question whether specialised paediatric nurse education has any effect upon the quality of care children and their families receive when they are admitted to hospital in Australia. In this chapter, the demographic information of the sample is discussed first, including a test for normal distribution by group. Following this, to align with the four stages of the study as outlined in Chapter Four, this chapter presents the findings of this research according to the following structure (see Table 5.1):

Method	Data Analysis
Stage Two: Delphi technique	Stage Two: See Section 5.2
Stage Three: Observation data collection	Stage Three, Part One: General analysis between the two groups. See Section 5.2.1 Stage Three, Part Two: Analysis of individual item analysis of the QMs. See Section 5.2.3
Stage Four: Survey of the RNs	Stage Four: Analysis of the nurses' survey. See Section 5.3

Table 5.1 Structure of how the findings are presented

The sections of Chapter Five are further explained thus:

- Demographic information of the sample includes: the age of the registered nurses (RN), any career breaks they have had and how long they have worked within paediatrics.
- **Observational data collection part one:** This section includes overall differences between the specialist paediatric nurses (SPN) and non-specialist paediatric nurses (NSPN) in the way the two groups meet the quality measures (QMs).
- **Observational data collection part two:** This section includes analysis of the individual item analysis of the QMs by the two groups.

Additional qualitative data were collected by close observations of the videos. Significant events were logged and the themes which emerged are described. Any differences in behaviour due to reasons other than specialist education and training are

described because behaviour is affected by many variables which need to be considered when using observation methodology. Therefore, additional analysis was undertaken to compare such variables as the SPNs and the NSPNs age, the length of time they had been nursing, and the length of time they had worked with children to ascertain whether this explains more of the difference between nurses' behaviour than speciality education.

- **Survey of the RNs:** Any differences in behaviour due to factors other than specialist education that the nurses themselves attribute to their nursing styles.

It is important to note that while the groups were heterogeneous, all of the RNs used a homogenous tool to guide the admission procedure (see Appendix N). The expectation was that there should be some similarities in meeting the QMs during the admission procedure, regardless of the educational background, or the experience of the RN.

During the data collection, 187 parents and children were approached to participate in the research. Ten parents refused to be part of the research which is a 0.05 refusal rate. Nine other families agreed to be filmed but were not included because of a change: in the allocated ward; to the allocated area of the ward; or the admission was cancelled. This resulted in 168 separate children and their families being observed during the admission procedure.

In the data analysis sections, the terms caregiver and parent are used interchangeably.

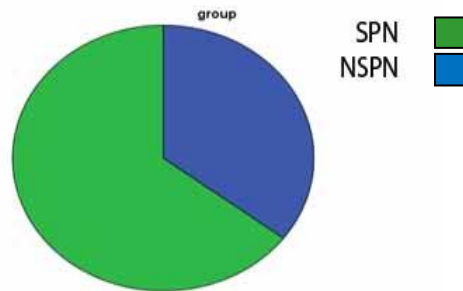
5.1 Demographic data

A total of 84 RNs were recruited as subjects in this study. Of the 84 RNs, six were not observed at all as they did not undertake any admissions when the researcher was collecting the data, and ten were observed during one admission only. Since the minimum number of observations of nurses was set at two, these single video observations were not included in the final data analysis.

Of the remaining 68 RNs, 12 were initially observed four times during four separate admissions, the remaining 56 RNs being observed twice. However, for all nurses, only the final admission procedure performed was analysed.

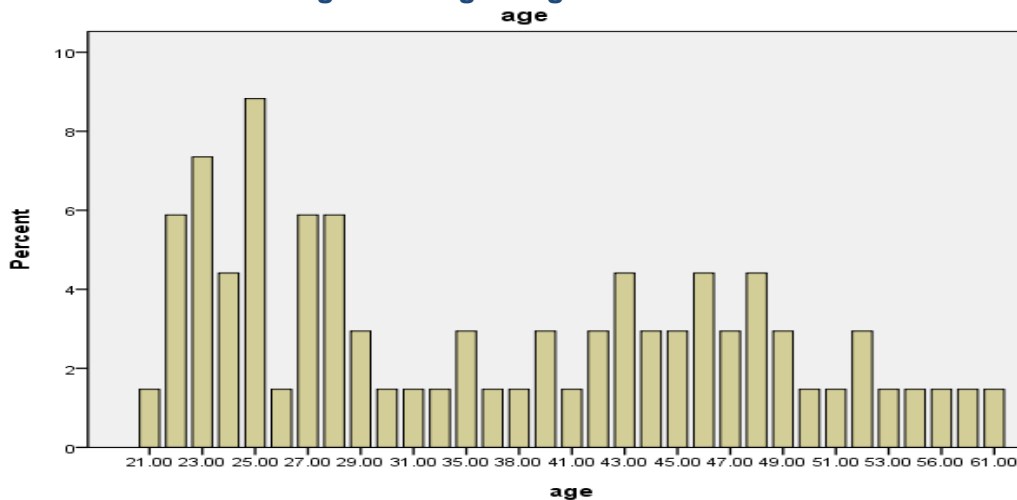
The demographic data revealed there to be 44 (65.7%) RNs without a specialist education and 24 (35.3%) RNs with a specialist nurse education (see Figure 5.1), which was a ratio of approximately 2:1 for the NSPNs and SPNs working in the research sites.

Figure 5.1 Numbers of RNs by group



The RNs age ranged from 21 to 61 years old (see Figure 5.2). The mean age was 36.23 and the median age was 35 indicating more RNs in the younger age group (see Table 5.2).

Figure 5.2 Age range of the RNs



Additional analysis of the demographic data revealed 23 (52%) NSPNs and eight (33%) SPNs younger than 30; 15 (34%) NSPNs and 14 (58%) SPNs between the ages of 31-50; and six (14%) NSPNs and two (8%) SPNs between the ages of 51- 61 (see Table 5.3).

	age
N Valid	68
Mean	36.2353
Median	35.0000
Mode	25.00
Std. Deviation	11.50745
Variance	132.421
Range	40.00

Table 5.2 Central tendencies of ages

		Age range in years			Total
		<30	31-50	>50	
Group	SPN	8 (33.3%)	14 (58.3%)	2 (8.3%)	24 100%
	NSPN	23 (52%)	15 (34%)	6 (14%)	44 100%
Total		31	29	8	68

Table 5.3 Age range of RNs

In total, 63 (92.6%) were females and 5 (7.4%) males. Two of the males were SPN and three were NSPN (see Table 5.4).

		gender		Total
		female	male	
Group	SPN	22	2	24
	NSPN	41	3	44
Total		63	5	68

Table 5.4 Gender by groups

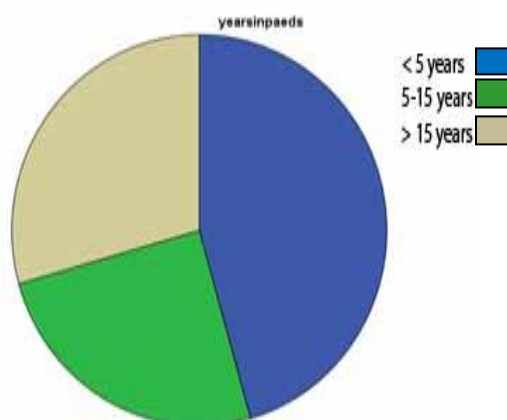
In total, 45.6% of all the RNs in the sample had worked less than five years in paediatrics, 25% between 5-15 years, and 29.4% for more than 15 years (see Table 5.5). By group, approximately 30% of the SPN had worked in paediatrics less than five years, 37% between five to 15 years, and 33% for more than 15 years. Of the NSPN group, 54% had worked in paediatrics for less than five years (54%), 29% between five to 15 years, and 17% for more than 15 years (see Table 5.5).

			Group		Total
			SPN	NSPN	
Years in paediatrics	Less than 5 years	Count	7	24	31
		% within group	29.2%	55.5%	45.6%
		% of Total	10.3%	35.3%	45.6%
	6 to 15 years	Count	9	8	17
		% within group	37.5%	18.2%	25.0%
		% of Total	13.2%	11.8%	25.0%
	More than15 years	Count	8	12	20
		% within group	33.3%	27.3%	29.4%
		% of Total	11.8%	17.6%	29.4%
		% of Total	35.3%	65.7%	100.0%

Table 5.5 Years worked in paediatrics by groups

Figure 5.3 visually demonstrates this more clearly visually, as close to half of the RNs having worked in paediatrics for less than five years.

Figure 5.3 Years worked in paediatrics for all RNs



5.2 Normal distribution by education group

The QMs were tested for frequency distribution (how often a score occurs in a data set).

Theoretically, the scores should be symmetrically distributed around the centre of the scores combined (Field, 2009). One way of checking normality of the distribution is to use a probability-probability plot (P-P plot) graph. The data are ranked and scored, the P-P displaying the expected values. In addition, the P-P plot also displays the actual data scores. If distribution is normal, the actual score and the expected score will be the same, and a straight line is more or less displayed in the graph (Field, 2009). Another way to display the distribution of data is to use box plots. Box plots have a shaded box with a line through them. The line through the shaded box represents the median score for the data. Box plots also have lines above and below, these representing the highest and lowest expected values.

Figures 5.4 and 5.5 are P-P plot graphs displaying the distribution of the data from both the SPNs and the NSPNs. Figure 5.4 shows the scores not to be clustered at the centre indicating the distribution of scores for the SPNs is not normal, being outside of the probability score. Whereas in Figure 5.5, all the scores cluster around the line, indicating there to be a normal distribution for the NSPNs. This can be seen more clearly in Figure 5.6 which displays the scores and identifies which RN[s] are outside of the probability score. That is, RN 56.

Figure 5.4 Distribution of SPN meeting QMs

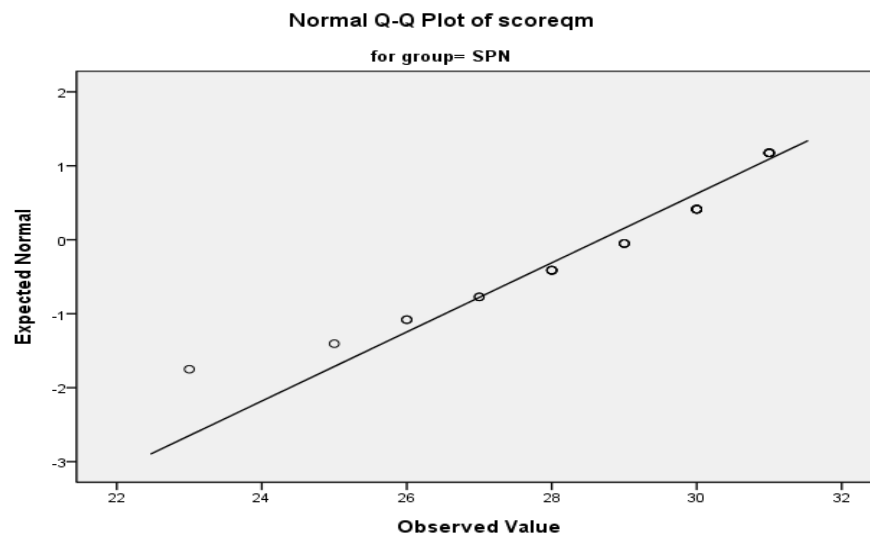


Figure 5.5 Distribution of NSPN meeting QMs

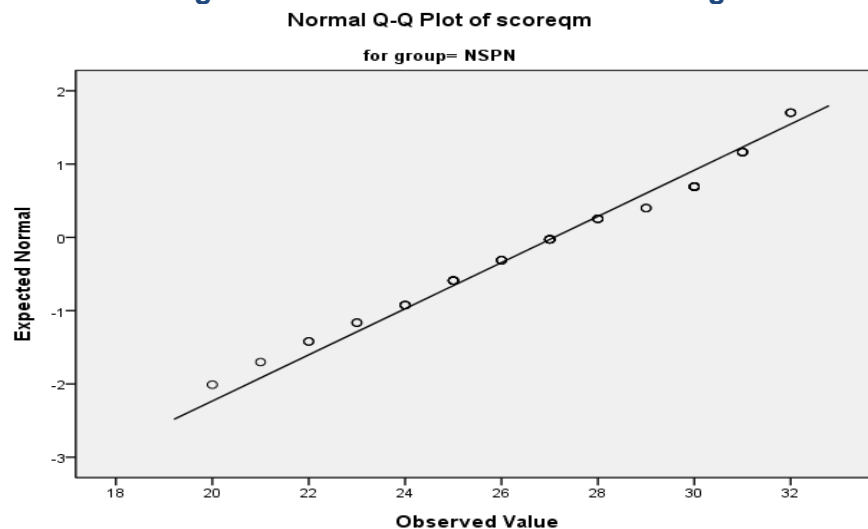


Figure 5.6, the box plot diagram, indicates that RN 56 met the QMs less often than the other SPNs. RN 56 is an outlier (see Chapter Six). To establish how significant this outlier data was,

the analysis of each QM was repeated omitting RN 56. The results are displayed with and without RN 56 to show their significance for the findings.

Figure 5.6 Distributions of both groups meeting QMs



5.2.1 Analysis of the two groups with all QMs combined

As this project is exploratory, the QMs were developed by consensus of the Delphi Panel, therefore, the experts were not asked to rank the QMs by order of importance. Most of the panel argued that all were important for good quality care, so none of the QMs were identified as having the greatest weighting. Scores could range from 2 (only one of the QMs was observed) to 33 (all of the QMs were observed) during the collection of admission data.

To compare the two groups, each RN had a total score summed across all of the QMs according to each QM being met or not. Each RN was scored as follows:

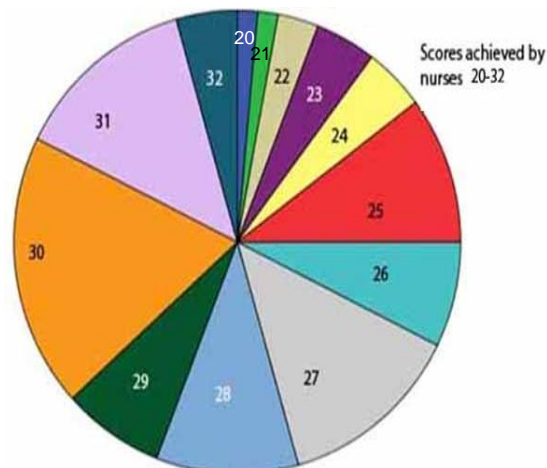
- A score of 3 for meeting the QM;
- A score of 2 for not meeting the QM; and
- A score of 1 if the QM was not applicable meaning the RN could not achieve the QM due to the circumstances of the admission, for example, the child was not distressed.

The data were displayed on a Microsoft Excel spread-sheet. The total score for each RN meeting the QMs was added using the Sum function in Excel. Then using the COUNTIF function in Excel, a score was accrued omitting any not applicable QM. A maximum attainable score was achieved by multiplying the number of applicable questions by 3, the maximum attainable score per QM including child and parent. A percentage was then calculated by

dividing the total scores achieved through the Sum function of Excel by the maximum obtainable score. The higher the percentage the RN achieved, the more of the QMs were met.

Figure 5.7 displays the distribution of the overall range of the scores achieved by all of the RNs in meeting the QMs. Table 5.6 displays the scores achieved by the individual groups including the percentage of each group and also the overall percentages of all of the RNs. For example, one RN in the NSPN group (2.3% of the NSPNs, n=44) achieved a score of 20 which was 1.5% of the total number (n=68). The scores represent how many of the QMs for children and parents were met by the RNs.

Figure 5.7 Scores of RNs in meeting the QMs



Number of QMs met by the nurses in each group		Group		Total
		SPN	NSPN	
20.00	Count	0	1	1
	% within group	.0%	2.3%	1.5%
21.00	Count	0	1	1
	% within group	.0%	2.3%	1.5%
22.00	Count	0	2	2
	% within group	.0%	5.5%	2.9%
23.00	Count	1	2	3
	% within group	5.2%	5.5%	5.4%
25.00	Count	0	3	3
	% within group	.0%	6.8%	5.4%
25.00	Count	1	6	7
	% within group	5.2%	13.6%	10.3%
26.00	Count	2	3	5
	% within group	8.3%	6.8%	7.4%
27.00	Count	2	7	9
	% within group	8.3%	15.9%	13.2%
28.00	Count	4	3	7
	% within group	16.7%	6.8%	10.3%
29.00	Count	3	2	5
	% within group	12.5%	5.5%	7.4%
30.00	Count	6	7	13
	% within group	25.0%	15.9%	19.1%
31.00	Count	5	4	9
	% within group	20.8%	9.1%	13.2%
32.00	Count	0	3	3
	% within group	.0%	6.8%	5.4%
Total	Count	24	44	68
	% within group	100.0%	100.0%	100.0%
	% of Total	35.3%	65.7%	100.0%

Table 5.6 Scores of RNs meeting the QMs by group

To test for any statistical difference between the means of two groups, a t-test was implemented. The mean scores of each group meeting the QMs were determined (see Table 5.7) and the t-test discerned any significant differences in the means of the two groups meeting the combined scores for all the QMs.

Group Statistics					
group		N	Mean	Std. Deviation	Std. Error Mean
Percent achieved	SPN	24	83.9583	10.15737	2.07336
	NSPN	44	75.9773	13.79836	2.08018

Table 5.7 Mean score by percent of each group which achieved the QMs

Following this step, the comparison of the equality of the means was calculated (see Table 5.8). It depicts a statistically significant difference between the two groups in meeting the QMs. The mean difference between the two groups, 7.98106, is statistically significant according to the 2-tailed significant column - $p=.009$. If the standard deviation had been approximately equal for both groups, no corrections to the calculation would have been needed. However, as they are not the same, corrections were applied using the degrees of freedom of the test. SPSS performs this by default thus two significant values are recorded in the significant 2-tailed column. Using Levene's test for equality of variance the appropriate result to use is that the lower row because equal variances were not assumed. Thus the $p=.009$ reading demonstrates in the broad sense, the SPNs to meet the QMs significantly more than the NSPNs because of the statistically significant difference between these two groups.

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Percent Achieved	Equal variances assumed	5.162	.026	2.486	66	.015	7.98106	3.20982	1.57244	15.38
	Equal variances not assumed			2.717	60.05	.009	7.98106	2.93700	2.10630	13.85

Table 5.8 Significance of scores between the two groups

When the analysis was repeated omitting RN 56, the result remained significant - $p=.001$ (see Table 5.8a).

Group Statistics										
		group	N	Mean		Std. Deviation		Std. Error Mean		
Percent		SPN	23	85.2174		8.25148		1.72055		
Achieved		NSPN	44	75.9773		13.79836		2.08018		
Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Percent Achieved	Equal variances assumed	9.816	.003	2.942	65	.005	9.24012	3.14078	2.96754	15.5126
	Equal variances not assumed			3.423	63.69	.001	9.24012	2.69953	3.84669	14.6335

Table 5.8a Significance of scores between the two groups omitting RN 56

5.2.2 Summary of the analysis of the combined scores

The overall data of the QMs combined shows there to be a statistically significant difference between the SPN and the NSPN groups in their meeting the QMs. The difference is significant ($p=.009$), but although the SPN group represent RNs who have undertaken specialist education in paediatrics and the NSPN are RNs who have not undertaken specialist education, it is not possible to attribute the differences in meeting the QMs to the level of education of the RNs from the initial data analysis. This is highlighted in Table 5.6 which displays the range of scores achieved by the RNs ranging from 20 to 32 with the median score of 26. When the individual scores of each group were compared, none of the SPNs achieved scores as high as those of three NSPNs who scored 32 out of a possible 33. But overall, a higher percentage of the SPNs than the NSPNs scored above the median. More detailed analysis was conducted of the individual QMs and this is discussed in the next section.

5.2.3 Analysis of each quality measure by education group

The RNs were included in one of the two groups depending upon whether or not they had undertaken specialist paediatric nurse education. Therefore, using education as the dependent variable, comparisons were made to test whether or not there was a relationship between the levels of education and the meeting by each of the QMs using Chi Square statistical tests. The

analysis consisted of an overall summary the statistics between group comparisons on each of the seven QMs. Thus:

QM1. If the child can talk, the nurse should endeavour to engage the child in social conversation which may involve getting to the child's eye level to greet the child. If the child is a preverbal toddler this social engagement may include making eye contact and saying simple repetitive phrases.

This measure was applicable to children only and was met by the majority of the sample (n=44/68) being 64.7% of all of the RNs comprising the sample. The QM was met by 79.2% of SPNs (n=19/24) and 56.8% of the NSPNs (n=25/44) (Table 5.9). Even though some of the children were just over one year old, there were no instances where this measure was not applicable. The difference between the groups of RNs was not statistically significant ($p=.055$) (see Table 5.10). This means there was no association between the two groups regarding type of education the RNs have had and whether or not this measure was met. Although when RN 56 was omitted, the result achieved statistical significance ($p=.030$) (see Table 5.10a).

			QM1c		Total
			No	yes	
Group	SPN	Count	5	19	24
		% within group	20.8%	79.2%	100.0%
	NSPN	Count	19	25	44
		% within group	43.2%	56.8%	100.0%
Total count			24	44	68

Table 5.9 QM 1 by group

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.396 ^a	1	.065		
Fisher's Exact Test				.110	.055
N of Valid Cases	68				

Table 5.10 Chi square Test for QM1

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.457 ^a	1	.035		
Fisher's Exact Test				.057	.030
N of Valid Cases	67				

Table 5.10a QM 1 by group RN 56 omitted

QM2. The nurse should try to discover if the child has been in hospital before. If child has been in hospital before, the nurse should endeavour to establish if the child is likely to remember being in hospital. If the child can talk the nurse should ask the child what they know about coming to the hospital.

Child: Table 5.11 shows this measure was not applicable in ten of the observed admissions as these children were too young to be asked about recollections of being in hospital. Therefore, this measure was applicable to 58 of the observed admissions. This measure was met overall by 22.4% of the RNs (n=9/68). The QM was met by 4.2% of SPNs (n=1/24) and 18.2% of the NSPNs (n=8/44).

			QM2c			Total
			Na	No	Yes	
group	SPN	Count	4	19	1	24
		% within group	16.7%	79.2%	4.2%	100.0%
	NSPN	Count	6	30	8	44
		% within group	13.6%	68.2%	18.2%	100.0%
Total Count			10	49	9	68

Table 5.11 Scores of RNs meeting QM 2 child by group

Chi-Square showed there to be no association between the groups regarding the extra pertinent education RNs had previously received regarding whether or not this measure was met $p=.107$ (see Table 5.12). When RN 56 was omitted the result was still not significant - $p=.121$ (see Table 5.12a).

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.576 ^a	1	.109		
Fisher's Exact Test				.143	.107
N of Valid Cases	58				

Table 5.12 Chi-Square Tests for QM2 child

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.375 ^a	1	.123		
Fisher's Exact Test				.247	.121
N of Valid Cases	57				

Table 5.12a QM 2 RN 56 omitted

Parents: Parents were asked whether their children had been in hospital before and if they were likely to remember the experience. The measure was met by 76.4% (n=52/68) of the RNs

(see Table 5.13). The QM was met by 91.7% (n=22/24) of SPNs and 68.2% (n=30/44) of the NSPNs.

			QM2p			Total
			Na	No	yes	
Group	SPN	Count		2	22	24
		% within group		8.3%	91.7%	100.0%
	NSPN	Count	1	13	30	44
		% within group	2.3%	29.5%	68.2%	100.0%
Total		Count	1	15	52	68

Table 5.13 Scores for RNs for QM2 parent by group

There was a significant association between the groups regarding the type of additional education RNs in this research had and whether or not this measure was met - $p=.035$ (see Table 5.14). Obtaining this information from the parent was not achieved for one admission by an NSPN because the child's father, who was not the main carer, was the only parent present during the admission. Therefore, the RN scored one as the QM was not achievable. When RN 56 was omitted, the result remained significant - $p=.042$ (see Table 5.14a).

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.251 ^a	1	.039		
Fisher's Exact Test				.065	.035
N of Valid Cases	67				

Table 5.14 Chi-Square Tests for QM2 parent

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.958 ^a	1	.042		
Fisher's Exact Test				.065	.042
N of Valid Cases	66				

Table 5.14a Chi-Square Tests for QM2 parent RN56 omitted

QM3. The nurse should endeavour to establish or negotiate with caregiver(s) their level of participation in care giving.

This measure only applied to parents and was met overall by 5.9% (n=4/68) of the RNs. Those achieving the QM were in the SPN group (16.7% of the group). None of the NSPNs met this measure as indicated in Table 5.15.

			QM3p		Total
			no	yes	
Group	SPN	Count	20	4	24
		% within group	83.3%	16.7%	100.0%
	NSPN	Count	44	0	44
		% within group	100.0%	.0%	100.0%
Total Count			64	4	68

Table 5.15 Scores by RNs for QM3 by group

There was a significant association between the groups regarding the type of relevant education the research cohort of RNs had, and whether or not this measure was met - $p=.013$. QM3 was not met by 83.3% of the SPNs (see Table 5.16), thereby emphasising that it was only the level of education the RNs had undertaken which influenced whether the QMs are met or not. When RN 56 was omitted the result remained significant - $p=.012$ (see Table 5.16a).

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.792 ^a	1	.005		
Fisher's Exact Test				.013	.013
N of Valid Cases	68				

Table 5.16 Chi Square test for QM3

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.138 ^a	1	.004	.012	
Fisher's Exact Test				.012	.012
N of Valid Cases	67				

Table 5.16a Chi Square test for QM3 RN 56 omitted

QM4. When providing an explanation to the child/ caregiver(s) the nurse should use age appropriate language and or concepts and use culturally appropriate language. The nurse should assess if the child and caregiver(s) have understood the explanations by reframing their responses.

Children: This measure was met overall by 45.57% ($n= 31/68$) of the RNs (see Table 5.17). The QM was met by 54.2% ($n=13/24$) of the SPNs and 40.9% ($n=18/44$) of the NSPNs.

			QM4c			Total
			Na	no	Yes	
Group	SPN	Count		11	13	24
		% within group		45.8%	54.2%	100.0%
	NSPN	Count	1	25	18	44
		% within group	2.3%	56.8%	40.9%	100.0%
Total Count			1	36	31	68

Table 5.17 Scores by RNs for QM4 child by group

No significant association was apparent between the groups regarding the type of education RNs had undertaken, and whether or not this measure was met - $p=.238$ in children (see Table 5.18). One incidence where meeting this QM was not achievable by a NSPN was due to the child having a chronic condition with multiple previous admissions. It was presumed, these prior hospitalisations would have been remembered by the child; therefore it was reasonable of the RN to assume the child understood all of the procedures. Therefore, this RN was scored 'one' for this QM. When RN 56 was omitted the result, $p=.190$ was still not significant (see Table 5.18a).

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.938 ^a	1	.333		
Fisher's Exact Test				.444	.238
N of Valid Cases	67				

Table 5.18 Chi Square test for QM4

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.293 ^a	1	.255	.306	
Fisher's Exact Test				.306	.190
N of Valid Cases	66				

Table 5.18a Chi Square test for QM4 RN 56 omitted

Parents: When providing explanations to parents, 83.9% ($n=57/68$) RNs met this measure. The QM was met by 91.7% ($n=22/24$) of the SPNs and 79.5% ($n=35/44$) of the NSPNs (see Table 5.19).

			qm4p		Total
			no	Yes	
Group	SPN	Count	2	22	24
		% within group	8.3%	91.7%	100.0%
	NSPN	Count	9	35	44
		% within group	20.5%	79.5%	100.0%
Total Count			11	57	68

Table 5.19 Scores by RNs for QM4 parent by group

Statistical evidence showed there to be no significant association between the groups regarding the RN's type of education, and whether or not this measure was met - $p=.171$ (see Table 5.20). There were no 'not applicable' scores for this measure. When the score of RN 56, the outlier, was omitted, the result was still not significant - $p=.071$ (see Table 5.20a); however, the overall revised score showed a trend toward statistical significance.

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.683 ^a	1	.195		
Fisher's Exact Test				.305	.171
N of Valid Cases	68				

Table 5.20 Chi Square test for QM4 parent

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.086 ^a	1	.079	.146	
Fisher's Exact Test				.146	.076
N of Valid Cases	67				

Table 5.20a Chi Square test for QM4 parent RN 56 omitted

QM5. If the child can talk the nurse should intentionally try to connect with the child. This may be demonstrated by the nurse explaining to the child what the nurse is going to do using words and phrases the child is able to understand and which are appropriate for child's developmental age.

This measure applied only to children so the RNs' interaction with the parents was of no influence. This measure was met overall by 58.8% ($n=40/68$) of the RNs. The QM was met by 70.8% ($n=17/24$) of the SPNs and 52.3% ($n=23/44$) of the NSPNs (see Table 5.21).

			QM5c		Total
			no	Yes	
group	SPN	Count	7	17	24
		% within group	29.2%	70.8%	100.0%
	NSPN	Count	21	23	44
		% within group	47.7%	52.3%	100.0%
Total Count			28	40	68

Table 5.21 Scores by RNs for QM5 by group

There was no significant association between the groups (see Table 5.22) regarding the type of education RNs had undertaken and the status of their meeting the measure - $p=.109$ ($n=23/44$). When RN 56 was omitted, the result was still not significant but showed a trend toward statistical significance - $p=.072$ (see Table 5.22a).

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.209 ^a	1	.137		
Fisher's Exact Test				.198	.109
N of Valid Cases	68				

Table 5.22 Chi Square test for QM5

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.940 ^a	1	.086	.117	
Fisher's Exact Test				.117	.072
N of Valid Cases	67				

Table 5.22a Chi Square test for QM5 RN 56 omitted

QM6. The nurse should endeavour to help the child through the admission procedure and demonstrate sensitivity and use strategies to deal with a child reluctant to engage in any part of the admission procedure and not appear to rush the child by showing patience and tolerance.

Children: Of all RNs, this measure was met by 54.3% of them ($n=37/68$), the QM being met by 70.8% ($n=17/24$) of the SPNs and 45.5% ($n=20/44$) of the NSPNs (see Table 5.23). This QM was not applicable for four of the observed admissions as these children showed no distress or reluctance during the procedure being admitted by participants within the NSPN group. Therefore, the four nurses had no need to utilise any of the skills needed to meet this QM.

			QM6c			Total
			Na	no	yes	
Group	SPN	Count		7	17	24
		% within group		29.2%	70.8%	100%
	NSPN	Count	4	20	20	44
		% within group	9.1%	45.5%	45.5%	100%
Total Count			4	27	37	68

Table 5.23 Score for RNs for QM6 child by group

There was no significant association between the groups regarding the type of education undertaken by RNs, and whether or not this measure was met - $p=.084$ (see Table 5.24). When RN 56 was omitted, the result showed a trend toward statistical significance - $p=.055$ (see Table 5.24a).

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.669 ^a	1	.102		
Fisher's Exact Test				.123	.084
N of Valid Cases	64				

Table 5.24 Chi Square test for QM6 child

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.445 ^a	1	.063		.
Fisher's Exact Test				.110	.055
N of Valid Cases	63				

Table 5.24a Chi Square test for QM6 child RN 56 omitted

Parents: This measure was met overall by 88.2% of the RN research cohort ($n=60/68$), the QM being met by 95.8% ($n=23/24$) of the SPNs and 85.1% ($n=37/44$) of the NSPNs (see Table 5.25).

			QM6p		Total
			no	yes	
group	SPN	Count	1	23	24
		% within group	4.2%	95.8%	100.0%
	NSPN	Count	7	37	44
		% within group	15.9%	84.1%	100.0%
Total Count			8	60	68

Table 5.25 Score for RNs for QM6 parent by group

There was no significant association between the groups (see Table 5.26) regarding the type of education RNs had, and whether or not this measure was met - $p=.148$. However, when RN 56 results were omitted, there was a statistically significant association between the level of education the RNs had and their interaction with parents (see Table 5.26a) during the admission procedure - $p=0.44$.

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.063 ^a	1	.151		
Fisher's Exact Test				.244	.148
N of Valid Cases	68				

Table 5.26 Chi Square test for QM6 parent

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.086 ^a	1	.043	.086	
Fisher's Exact Test				.086	.044
N of Valid Cases	67				

Table 5.26a Chi Square test for QM6 parent RN 56 omitted

QM7. The nurse involves caregiver(s) in procedures. If a child appears to be frightened or reluctant during the procedures, the nurse should be sensitive to cues. Nurses should use a toy e.g., a doll or teddy bear that the child is familiar with in attempt to aid the child to feel more at ease with parts the admission procedure.

Children: Of all the RNs this measure was met by 36.75% ($n=25/68$). The QM was met by 33.3% ($n=8/24$) of the SPNs and 38.6% ($n=17/44$) of the NSPNs (see Table 5.27). This QM did not apply to ten observations because these ten children displayed no obvious signs of being frightened such as clinging to their parents or crying or withdrawing from the nurse when they were approached.

			QM7c			Total
			Na	no	Yes	
group	SPN	Count	3	13	8	24
		% within group	12.5%	54.2%	33.3%	100.0%
	NSPN	Count	7	20	17	44
		% within group	15.9%	45.5%	38.6%	100.0%
Total Count			10	33	25	68

Table 5.27 Score for RNs for QM7 child by group

There was no significant association between the groups regarding the type of RNs' education received and whether or not this measure was met - $p=.162$ (see Table 5.28). When RN 56 was omitted, the result was still not statistically significant - $p=.109$ (see Table 5.28a).

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.642 ^a	1	.200		
Fisher's Exact Test				.249	.162
N of Valid Cases	54				

Table 5.28 Chi Square test for QM7 child

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.331 ^a	1	.127	.147	
Fisher's Exact Test				.147	.109
N of Valid Cases	53				

Table 5.28a Chi Square test for QM7 child RN 56 omitted

Parents: Overall, this measure was met by 74.97% ($n=51/68$) of the RNs. Table 5.29 depicts the QM was met by 87.5% ($n=21/24$) of the SPNs and 68.2% ($n=30/44$) of the NSPNs.

		QM7p		Total
		no	Yes	
Group	Count	3	21	24
	% within group	12.5%	87.5%	100.0%
NSPN	Count	14	30	44
	% within group	31.8%	68.2%	100.0%
Total Count		17	51	68

Table 5.29 Score for RNs for QM7 parent by group

There was no significant association between the groups (see Table 5.30) regarding the type of education the RN cohort had and whether or not this measure was met - $p=.068$. Table 5.30a shows that when RN 56 score was omitted, the result was statistically significant - $p=.031$.

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.091 ^a	1	.079		
Fisher's Exact Test				.141	.068
N of Valid Cases	68				

Table 5.30 Chi Square test for QM7 parent

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.443 ^a	1	.035	.067	
Fisher's Exact Test				.040	.031
N of Valid Cases	67				

Table 5.30a Chi Square test for QM7 parent RN 56 omitted

5.2.4 Summary of meeting the individual QMs

Although there was a statistically significant difference between the overall score of the groups (see Table 5.8), when individual items within the QM instrument were analysed, there were few statistically significant differences found for the individual measures. However, when the scores of outlier RN 56 were removed from the analysis, a greater number of the QMs were statistically significant. The videos of RN 56 were reviewed in order to check whether something exceptionally challenging occurred during the admission procedure or, if there was any indication that RN 56 was particularly affected by the research process. Nothing indicated any major differences between the RN 56 admission procedure and that of others (see Chapter Six, Section 6.4.1).

An important point to note was that the RN research cohort used similar admission forms comprising, in part, certain pointers for admitting children to hospital. For example, questions on the nursing admission form include previous hospital admissions and any specific names the child may have for things such as toileting or for pain. These were included in the tested QMs. However, the prompts from the admission form did not appear to influence the observed behaviour. For example, QM2 for children focusing on questioning them as to whether they had been in hospital previously was met by less than 25% of all the RNs. The level of additional education the RNs had received did not appear to affect whether this QM was met or not. Therefore, other influences other than education possibly affected whether the RNs met the QMs. The age range of the RNs and their experiences in nursing were tested to ascertain whether these factors affected their meeting the QMs.

5.2.5 Analysis of independent variables

Due to the potential for experience in nursing to contribute to any differences found between the two groups, an analysis of covariance (ANCOVA) model was developed to assess the impact of specialist paediatric nurse education on whether SPNs met the QMs more often than NSPNs,

while controlling for the age of the RNs; the number of years since the RNs first qualified in nursing and the number of years the RNs had worked in paediatrics.

Table 5.31 which compares age with group score and it shows that RN age and their level of education did not affect significantly whether the QMs were met - $p = .083$. However, what is apparent along the group row (SPN or NSPN) is that the level of education appears to be a significant predictor of whether the QMs were met or not - $p = .028$.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power ^b
Corrected Model	42.628 ^a	2	21.314	2.590	.083	5.180	.499
Intercept	4755.440	1	4755.44	577.87	.000	577.870	1.000
age	4.068	1	4.068	.494	.485	.494	.107
group	41.667	1	41.667	5.063	.028	5.063	.601
Error	534.902	65	8.229				
Total	52554.00	68					
Corrected Total	577.529	67					

a. R Squared = .074 (Adjusted R Squared = .045) b. Computed using alpha = .05

Table 5.31 Covariance for age and group and score

Table 5.32 compares the number of years since the RNs first became qualified nurses and their level of education; it shows that the years since first becoming qualified did not affect significantly whether the QMs were met or not - $p = .089$. However, what Table 5.32 also shows along the group row is that the level of education still appears to be a significant predictor of the QMs being met - $p = 0.028$.

Tests of Between-Subjects Effects							
Dependent Variable: scoreqm							
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power ^b
Corrected Model	41.454 ^a	2	20.727	2.513	.089	5.026	.487
Intercept	7040.256	1	7040.256	853.642	.000	853.642	1.000
Reg date	2.894	1	2.894	.351	.556	.351	.090
group	41.451	1	41.451	5.026	.028	5.026	.598
Error	536.075	65	8.247				
Total	52554.00	68					
Corrected Total	577.529	67					

a. R Squared = .072 (Adjusted R Squared = .043) b. Computed using alpha = .05

Table 5.32 Covariance for years in nursing and group and score

Table 5.33 compares the number of years the RNs had worked within paediatrics and their level of education and informs that experience in paediatrics did not significantly affect whether the QMs were met or not - $p=0.082$. Similar to the age and experience in nursing variables above (see Table 5.33) the level of education is still shown to be a significant predictor of whether the QMs were met - $p=0.029$.

Tests of Between-Subjects Effects							
Dependent Variable: scoreqm							
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power ^b
Corrected Model	42.750 ^a	2	21.375	2.598	.082	5.196	.500
Intercept	22635.76	1	22635.76	2751.27	.000	2751.273	1.000
Exact	4.190	1	4.190	.509	.478	.509	.108
Years in paed group	40.840	1	40.840	4.964	.029	4.964	.593
Error	534.779	65	8.227				
Total	52554.000	68					
Corrected Total	577.529	67					

a. R Squared = .074 (Adjusted R Squared = .046) b. Computed using alpha = .05

Table 5.33 Covariance for years in paediatric nursing and group and score

Although the results displayed in tables 5.31, 5.32 and 5.33 are not conclusive, there was a trend towards significance ($p < 0.1$) was apparent after the analysis of covariance was completed. Possible reasons for a lack of conclusive evidence for an association between education and nurse behaviour include, ANCOVA was the statistical test used but generally, the results of ANCOVA are susceptible to difference in sample size, being insufficient to stratify the groups. Another possible reason for a lack of conclusive evidence is the relatively small sample size of the research cohort. This is indicated in tables 5.30, 5.31 and 5.32 in the Corrected Model row whereby the power is shown to be 0.499, 0.487 and 0.500 respectively. Observed power of less than 0.8 indicates an insufficient sample size to detect the difference. Therefore, the differences between the two levels of education of the RNs in this research and meeting the scores cannot exclude age or experience conclusively.

However, the level of education appears to be a significant predictor of whether the QMs were met or not ($p=0.028$ for age, $p=0.029$ for years as a qualified nurse, and $p=0.028$ for years in paediatrics). This suggests that the better educated SPN group performed better than the NSPN

group on meeting the QMs after controlling for age and experience in nursing and experience in paediatrics. Based on the evidence presented in the data, it appears that education is a factor which must be considered to be accounting for the differences between them and the NSPNs in meeting the QMs because, when each of the variables was compared to level of education, there was a statistically significant difference. The results of the RNs' survey also illuminate factors which influence behaviour such as meeting the QMs (see Section 5.3).

5.2.6 Results of inter-rater reliability

As described in Chapter Four, Section 4.3.10, in order to ensure reliability in interpretation of the data, a second researcher was used to check the findings of the primary researcher. Secondary observation of the data by another researcher, who views the data independently, is known as inter-rater reliability (Polit & Beck, 2006). Inter-rater reliability is the degree to which the two researchers have the same findings for the data. Inter-rater reliability can be analysed using Cohen's Kappa to obtain a mean Kappa value. A mean Kappa of 0.80 is classed as outstanding inter-rater reliability (Landis & Kock, 1977).

In this research, the second researcher selected 21 of the videos using a Random Number Generator and viewed the videos of the admissions done by approximately 20 of the RNs. This was a little under 30% of the sample but at least one nurse was viewed during two separate admissions. Therefore, the interrater observed for a total of 231 QMs ($n=21 \times 11$ QMs). Based on the reviews of the same videos there was a lack of congruence was revealed in two of the measures resulting in agreement 99.13%. Cohen's Kappa would be irrelevant with such a high percentage of agreement between the two raters. The inter-rater also provided many comments which the researcher read and used as part of the qualitative data analysis to match the comments to the emerging themes observed (see Section 6.4.6).

5.2.7 Report of other behaviours observed

While each of the 68 videos was analysed to ascertain whether the QMs were met by the RNs, other behaviours were also observed and recorded during the analysis. These were analysed thematically to investigate any other influences apparent during the admission procedure which could have influenced the status of meeting the QMs. For example, the RNs might have applied the opposite behaviour to that expected for meeting the QMs by not engaging with a child at any time during the admission procedure. This was highlighted as a theme because it seemed so out of place during the admission procedures which should be practised in a children's hospital.

The other recorded behaviours were not identified in the literature but they could be candidates for potential QMs.

Gibson (2006) describes thematic analysis as a means of grouping similar behaviour but cautions in the manner in which observed behaviour is interpreted. This may explain why Braun and Clarke (2006) acknowledge that it is not necessary to elaborate upon themes. In addition, Macy (2011) proffers the view that it is logical to perform thematic analysis on themes which are observed most frequently; not on the themes which rarely occur.

During the analysis of the videos, nine themes were noted by the researcher of which seven were also noted by the second rater; these are listed below. The themes which emerged were:

1. Family were left alone for a long periods before the admission procedure started and/ or the child was left alone for periods of time in a room;
2. No engagement with the child;
3. Paperwork conducted before assessing the child;
4. Phrases which the child may misinterpret e.g., “put the thermometer in your ear” (noted only by the researcher);
5. Use of jargon;
6. Standing above the child and family during procedure (noted only by the researcher);
7. Praising when the child cooperated/ Thanking the child;
8. Explaining the plan of care to the family; and
9. Giving a choice to the child

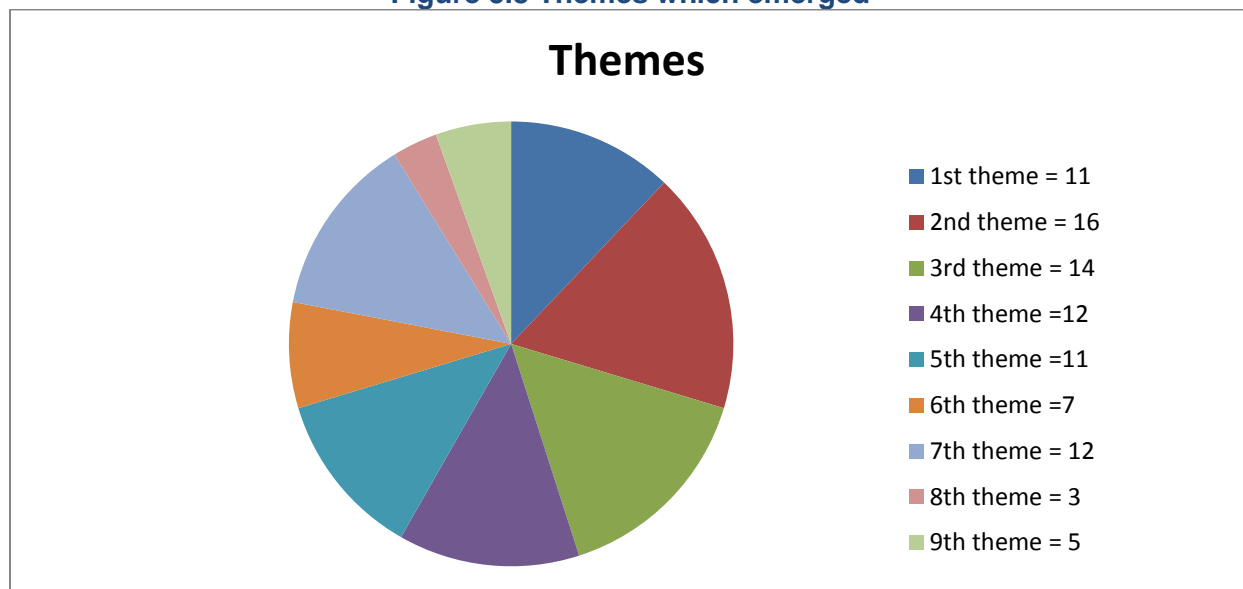
These are summarised with the number of times the theme was observed during the admissions (see Figure 5.8). In some instances the themes could be described as negative QMs because the behaviour observed was the opposite of quality behaviours which the Delphi Panel identified. For example, themes one, two, three and six indicate no attempt to help the admission procedure to be less stressful and indicate no endeavour at connecting with the child

or their family. Themes four and five demonstrate a lack of age appropriate language which may suggest that the child and/ or their family may not fully understanding explanations.

Themes seven eight and nine matched quality behaviours identified in the literature and by the Delphi Panel which were described in Chapter Four, Figure 4.1 and 4.2. The Delphi Panel did not include these as the highest priorities for the final QMs.

Other comments and behaviours were observed during the analysis of the videos. For example, some nurses sat down on the child's bed and discussed the admission with the parents and the child; another was comments made by the RNs being recorded verbatim. One such comment was "you're lucky to have it in [a nasogastric tube inserted into their nose]." Further comments and observations of behaviour are highlighted during the discussion of the findings in Chapter Six.

Figure 5.8 Themes which emerged



5.3 Results of the RNs' survey

The purpose of the survey was to ascertain what the RNs perceived as influential factors on their behaviour during their care delivery to children and their families. The factors included mentorship, workloads, and level of nurse education (see Appendix M). This section demonstrates how each question in the survey was answered by the RNs. Only 56 of the 68 RNs were able to be contacted via e-mail (see Appendix L). The other RNs were no longer working within the Department of Health, Western Australia (DoHWA). Of the contactable 56 RNs, 36 completed the survey, which was a 54.4% response rate which can be translated to 52.9% of the research cohort.

Question 1 in the survey asked if the RNs' behaviour was influenced by a mentor (see Table 5.34). Approximately as many RNs are influenced by a mentor as are not.

A particular nursing mentor you have worked with		
Answer Options	Response Percent	Response Count
0 (not at all)	16.7%	6
1	2.8%	1
2	2.8%	1
3	0.0%	0
4	2.8%	1
5 (neutral)	16.7%	6
6	5.6%	2
7	13.9%	5
8	8.3%	3
9	11.1%	4
10 (great influence)	19.4%	7
answered question		36

Table 5.34 Survey question 1

Question 2 in the survey asked if the RNs' behaviour was influenced by negative reactions of children such as temper tantrums or refusing to talk. More than 70% of the RNs' professional behaviours are influenced by the negative reactions of children (see Table 5.35).

A negative reaction of a child to the hospital experience		
Answer Options	Response Percent	Response Count
0 (not at all)	8.3%	3
1	0.0%	0
2	2.8%	1
3	2.8%	1
4	11.1%	4
5 (neutral)	5.6%	2
6	2.8%	1
7	19.4%	7
8	8.3%	3
9	19.4%	7
10 (great influence)	19.4%	7
answered question		36

Table 5.35 Survey question 2

Question 3 in the survey asked if the RNs' behaviour was influenced by negative reactions of parents (caregiver[s]) such as verbal aggression or overt anxiety. More than 70% of the RNs' behaviours are influenced by negative reactions of parents (see Table 5.36).

A negative reaction of parents to the hospital experience		
Answer Options	Response Percent	Response Count
(not at all)	8.3%	3
1	0.0%	0
2	8.3%	3
3	2.8%	1
4	2.8%	1
5 (neutral)	5.6%	2
6	11.1%	4
7	11.1%	4
8	25.0%	9
9	11.1%	4
10 (great influence)	13.9%	5
answered question		36

Table 5.36 Survey question 3

Question 4 in the survey asked if the RNs' behaviour was influenced by their colleagues. For example, if the RNs copied a colleague's behaviour. 57% of the RNs are of the opinion that their behaviour is influenced by their colleagues (see Table 5.37).

Colleagues on the ward		
Answer Options	Response Percent	Response Count
(not at all)	25.0%	9
1	0.0%	0
2	0.0%	0
3	0.0%	0
4	0.0%	0
5 (neutral)	36.1%	13
6	5.6%	2
7	5.6%	2
8	8.3%	3
9	2.8%	1
10 (great influence)	16.7%	6
answered question		36

Table 5.37 Survey question 4

Question 5 in the survey asked if the RNs' behaviour was influenced by hospital policies and procedures such as completing the paperwork for operating theatre lists. Hospital policies influenced 61% of the RNs' behaviour (see Table 5.38).

Hospital policies for example admission forms, operating theatre packs etc		
Answer Options	Response Percent	Response Count
0 (not at all)	8.3%	3
1	2.8%	1
2	2.8%	1
3	0.0%	0
4	0.0%	0
5 (neutral)	25.0%	9
6	11.1%	4
7	11.1%	4
8	13.9%	5
9	8.3%	3
10 (great influence)	16.7%	6
<i>answered question</i>		36

Table 5.38 Survey question 5

Question 6 in the survey asked if the RNs' behaviour was influenced by personal experiences such as memories of being in hospital as a child or having a family member in hospital as a child. Personal experience of inpatient care influenced the behaviour of 41% of the RNs (see Table 5.39).

Personal experience e.g., being in hospital as a child or a family member in hospital as a child		
Answer Options	Response Percent	Response Count
0 (not at all)	25.0%	9
1	5.6%	2
2	8.3%	3
3	2.8%	1
4	0.0%	0
5 (neutral)	16.7%	6
6	5.6%	2
7	8.3%	3
8	11.1%	4
9	11.1%	4
10 (great influence)	5.6%	2
answered question		36

Table 5.39 Survey question 6

Question 7 of the survey asked if the RNs' behaviour was influenced by their general nurse education/ training. Those RNs may have undertaken paediatric nurse education only; they had the option of leaving this question blank. Table 5.40 indicates that 70% of the RNs think their professional behaviour is influenced by their general nurse education.

Your initial general/ comprehensive nursing education If you have not completed a general nursing course, leave blank		
Answer Options	Response Percent	Response Count
0 (not at all)	3.3%	1
1	3.3%	1
2	3.3%	1
3	0.0%	0
4	3.3%	1
5 (neutral)	16.7%	5
6	10.0%	3
7	3.3%	1
8	16.7%	5
9	20.0%	6
10 (great influence)	20.0%	6
answered question		30

Table 5.40 Survey question 7

Question 8 was a yes/ no response asking if the RN had a specific paediatric nursing qualification. If they did not have a specific paediatric qualification, the RNs were directed to the

free-text comment boxes which asked for any positive and or negative experiences they perceived as being influential on their behaviour and which was not included in the survey.

If they did have a specialist qualification, question 9 asked if the SPNs' professional behaviour was influenced by their paediatric nurse education. More than 90% of the RNs who are specialist paediatric nurses think their professional behaviour is influenced by their level of education (see Table 5.41).

To what extent does your specialist paediatric nurse education influence your professional practice?		
Answer Options	Response Percent	Response Count
0 (not at all)	0.0%	0
1	0.0%	0
2	0.0%	0
3	0.0%	0
4	0.0%	0
5 (neutral)	8.3%	1
6	0.0%	0
7	0.0%	0
8	33.3%	4
9	8.3%	1
10 (great influence)	50.0%	6
<i>answered question</i>		12

Table 5.41 Survey question 9

The RNs were then directed to the aforementioned free-text boxes, for example in respect to Figure 5.9:

In the box below, would you please add any other factors which you think influence your paediatric nursing practice such as another area you have worked in, other people not mentioned above with whom you have worked with etc.

The comments from the free text boxes are summarised with some respondents making like comments (see Figures 5.9, 5.10 and 5.11).

Figure 5.9 Positive influences on RNs working with children

There were 26 separate comments for this question. Six of these were from SPNs and the remaining 20 were from NSPNs.

...undertook general nurse training at a progressive paediatric teaching hospital that gave me a solid foundation; Trained overseas where Paediatric Nursing is a recognised specialty. developed in me a deeper sense of understanding of the issues that families face;

Continuous nursing experience as student in various paediatric settings; working with well children in community which increases level of understanding child development;

Having .. own children, working in a tertiary hospital ... in intensive care helped with caring for sick children; being a parent or having a sick child; My personality; Personal fulfillment [sic]/enjoy working with children/families; family impact [sic]; work colleagues [sic] , working as a team, support; Intensive Care experience; feedback from patients and parents; other areas ... worked in, professional development ... keeping up to date, latest research; Staff development nurses, adult nursing, childcare; treat both patients and their families the way that I would want my family to be treated; nursing career overseas; other nurses on unit; knowlege [sic] of area you are working in; good nursing mentors positive influence.

A disgruntled parent needs further investigation to assess the validity of their complaint, if valid I learn how to avoid problems in the future; Being around other nurses and learning from them and seeing how they practice really is very influential [sic]; ... information from education sessions may change my usual practices and past experiences; Age of the child; Developmental stage eg Autisim, CP; my own life experiences and "vibres"[sic] I may get as approach the child and family or as I am interacting with them.

In respect to Figure 5.10, the RNs were then directed to the aforementioned free-text box, as follows:

In the box below, would you please identify any factors which may have had a negative impact on your nursing practice, such as workload issues, etc.

Figure 5.10 Negative influences on RNs working with children

There were 29 separate comments for this question. Four of these were from SPNs and the remaining 25 were from NSPNs.

Years of experience - it seems the longer that a nurse has been working, the less time they take to give personalised patient care; At times people disregard experience...and prefer others who influences the authorities; bad experiences / near misses making me think change what I do in the future;

*Stress if the ward is busy; not enough time to spend with parents; lack of support; paperwork; shift work- often tired; night duty has had a negative impact on my practice; working in a busy ward with high dependency patients with a high staff ratio of junior staff.
aggressive parents / Angry parents*

Other staff member's [sic] attitudes towards nursing – cynicism; staff I am working with -if they are intimidating you or if they don't trust you but interfere in your care

Poor leadership/managerial skills Poor Management change in managers/ can affect moral in general; lack of encouragement/appreciation; lack of autonomy

lack proactive of health promotion within hospital

Ideally during the admission process & throughout the nursing care of the child my goal would be to gain the confidence of the child & parent/carer by relating at a level appropriate to each of them & delivering high standard of care, thus allaying any fears. This level of care is often difficult deliver [sic] & frustrating due to time restraints & patients called for theatre prior to admission commenced/ theatre orders changed and increasingly high workloads. It is so important to have a positive impact on that first meeting during the admission this lays the path for their stay in hospital rushing so I don't do thinks [sic] as meticulously as I would if I had more time. Also if there is no clinical support or other people are too busy to help you and answer questions then that has a negative influence

Staff numbers (particularly on Night Duty) only considered on numbers of patients,not acuity, thus patient/parent care may sometimes be compromised (in that I am unable to give time to problems relating to either familial or psychological issues that should be addressed in order to provide holistic care). Also not having sufficient equipment, or equipment that has missing components, is incredibly frustrating and impacts on the basic nursing care of recording accurate observations,

Anything else you think we should know about the things that may influence your practice that has not been asked about in this survey? Thank you so much for taking the time to complete this survey.

Figure 5.11 Other influences upon RNs working with children

In the final comments section, only four nurses responded. One was a SPN and the remaining three were NSPNs.

I believe that it is essential to understand how an admission of a child not only impacts on the child and parent 'in that moment', but also how other issues for example, loss of parental role, altered body image, family dynamics (care of siblings and maintenance of family life for them), costs relating to admission - parking, food, loss of earnings, etc. can all become added burdens to the child/family and, in providing holistic family-centred [sic] care, need to be explored and assisted with where possible.

Paediatric units within general hospitals need strong support from upper management who support family centred care [sic] and evidence based practice.

always having the threat of legal issues if you make a mistake

poor communication within the workplace

5.4 Summary of the findings

The ratio of SPN and NSPN was almost 1:2 which is similar to the number of SPNs working with children in the research sites. Therefore, the study sample is reflective of the actual population of SPNs and NSPNs practising paediatric nursing in Western Australia. The results indicate there to be a difference in meeting the QMs between the two groups of RNs; that is, overall, the SPNs met the QMs more frequently than the NSPNs. This difference can be seen even when factors such as experience in nursing and age are taken into account. The RNs report that they consider education as being important to their day to day practices, even when they had not undertaken any specialist education.

The next chapter draws together the quantitative and qualitative results. The results are discussed in more detail and how the findings relate to the literature and the implications they may have for paediatric nursing practice in Australia.

Chapter 6: Discussion of the findings leading to the conclusions

... institutions, services and facilities responsible for the care or protection of children shall conform with the standards established by competent authorities, particularly in the areas of safety, health in the number and suitability of their staff, as well as competent supervision. (Office of the United Nations High Commissioner for Human Rights, 1990)

6.0 Introduction

The aim of this research was to investigate if specialist paediatric nurses (SPNs) deliver a higher quality of care to children and their families, as defined by the literature and the Delphi Panel, than RNs who have not undertaken specialist education in paediatrics (NSPNs). This chapter discusses the findings related to specialist education, linking these findings to the relevant literature and to current national policy in Australia regarding paediatric nurse education. The limitations of the research are highlighted and the chapter concludes with recommendations for the development of specialist education programs for RNs working with children and families. The findings of this research may also be relevant to other specialist streams of nursing, for example, mental health.

Before discussing the findings of this research, it is pertinent to reiterate the way the term quality is used in this thesis. In this thesis, quality health care differs from that which is more commonly described in literature where the focus is upon quality indicators rather than interactions with children and their families as described in the next section.

6.1 The difference between quality measures and quality indicators

As discussed in Chapter Three (Section 3.4), quality in health care is not easily defined, with many authors linking quality to safety and to outcomes (American Nurses' Association, 2007; Kelly & Hurst, 2006; Woods et al., 2005). In the U.S. in 2006, the Agency for Healthcare Research and Quality (AHQ) published a set of Paediatric Quality Indicators (QIs) which focused on patient safety, as measured through such adverse/ sentinel events as accidental puncture of blood vessels or lacerations during a procedure. The QI would be measured by the lack of these accidental outcomes. Other quality indicators included were mortality rates, specifically after heart surgery and other, more general post-operative complications, such as infection rates and foreign bodies left inside a patient after a procedure, such as an instrument or a swab. These are significant events which need monitoring but are primarily concerned with

mistakes and medical errors rather than the components of quality health care such as the interactions between RNs, children and their families.

The Australian Council on Healthcare Standards (ACHS) also published a set of paediatric indicators. The major emphasis of these indicators was placed upon epidemiological data such as immunisation uptake, and administrative data like intensive care bed blockages and asthma readmission rates (ACHS, 2010). Thus, when paediatric health care quality indicators are described, they concentrate on a lack of adverse or sentinel events or bed occupancy rates, not upon nursing skills or delivering good practice health care. Nursing skills and good practice within paediatrics was the focus of this research.

The key element of the approach taken to measuring quality in this research was to investigate some of the more interactive elements of what is considered quality of care in paediatrics; that is, the interaction with children and their families rather than a singular focus on clinical skills. While clinical skill-update courses are delivered in health care education (DoHWA, n.d.), the emphasis on the psychological care of children and their families is not seen as a priority. The quality measures (QMs) developed for this research relate to paediatric nursing and the skills that are needed to facilitate good practice when children and their families are admitted to hospital. The QMs are important in enabling children and their families to understand the hospital process and to prevent unnecessary fear in both children and their parents, and these skills are linked to specialised paediatric nurse education.

Glasper and Richardson's (2011) argued that emotional care of children is as important, if not more so, than physical care, averring that if children's emotional care is neglected, the potential exists for them to experience long term emotional harm. To ameliorate this potential, hospitalised children should be cared for by nurses with specific knowledge and skills in paediatrics. However; defining what is unique about children's nursing has been a challenge in paediatrics since nurse registration began. This has been confounded by disputes about the value of specialist education, but there is no controversy in nursing now about the unique needs of child patients. Accordingly, the general consensus is that the starting point for paediatric nursing is knowledge of the uniqueness of children rather than technical skills such as the recording of a child's blood pressure or a lack of an adverse or sentinel event. The skills of children's nurses should accentuate child development and psychological care and advocacy, and awareness of parents' needs and family centeredness [FCC] (Long, 1991).

6.2 Summary of the research

In Chapter One, the stages of the research were presented. The first stage involved an analysis of the literature and government policy relating to paediatric nursing. Next, a Delphi technique was employed to define the quality measures (QMs) for the admission procedure. After consensus on the QMs was reached by the Delphi Panel, a research tool was developed to test if SPNs met the QMs more than NSPNs during the admission procedure. The sample consisted of 24 SPNs and 44 NSPNs who were video recorded during at least two admission procedures. The educational background of the RNs was unknown to the researcher at the time of videoed observations. The videos were analysed using a research tool developed for this research to measure whether the RNs met the identified QMs during each of the observed admissions. The frequencies with which each nurse met or did not meet any of the identified QMs during the videoed observations were then summed to obtain an individual score of met QMs. An analysis was conducted of the total score by each RN group, followed by an analysis which compared the groups meeting the individual QMs. These outcomes were then related to the educational background of the RNs to determine if their levels of education had any effect on the quality of care that children and their families received during the admission procedure.

The findings from this research show that overall, SPNs meet the QMs significantly more often than NSPNs ($p=0.009$), a highly significant difference between SPNs and NSPNs in meeting the QMs was found. Despite this significant result, at this stage of the research, it was not possible to attribute these differences to the individual levels of education of the research cohorts because, when each of the QMs was analysed individually, several were met as often by the NSPNs. This led to the assumption, that there are other factors affect the quality of care rather than the level of the RNs education alone: this warrants further investigation.

Some of the factors considered in this research were the independent variables such as: the age of the RN, the number of years since the RN first qualified as a nurse and the number of years the RN has worked in paediatric nursing, including any career breaks. Other potential factors which may have affected whether the RNs met the QMs or not such as, included whether the RN had children or the RNs' personality, but these variables were not measured in this research.

When an analysis which controlled for the independent variables of age, experience in nursing and experience in paediatrics was conducted, results suggested that these do not influence

whether the QMs are met or not. Nevertheless, the results of the independent variables implied that specialist education in paediatrics is a strong predictor that an RN will meet the QMs.

The final stage of the research was the development of a survey which was undertaken to ascertain what the perceptions of all the RNs were of the major influences on their behaviour when caring for children and their families.

The findings from the survey data supported the analysis of RN demographic factors which implied that specialist education is important in paediatric nursing. The RNs who responded to the survey uniformly stated that education has a major influence on their nursing practices and care delivery with children and families.

6.3 Nursing policy and best practice within paediatrics

In nursing, there is no straightforward definition of best practice. Nevertheless best practice seems to be universally accepted as the delivery of quality health care (Williams, 2006). However, as discussed in Chapter Three (Section 3.2), defining quality in health care is problematic. The Australian Council on Health Care Standards [ACHS, (2006)] linked best practice to standards which have been developed by experts. Further to this, a joint publication by the RACP, AWCH, CHA and ACCYPN states that a standard is "... based on best practice guidelines and expert consensus" (RACP, 2008, p. 4).

For the purposes of this research, consensus of what is good or best practice during the paediatric admission procedure was initially sought in the relevant literature (Glasper & Richardson, 2011; Hockenberry & Wilson, 2007; Klossner & Hatfield, 2006; Kyle, 2007; Weller, 1986). After consensus was reached by the Delphi Panel regarding the 24 QMs identified (see Figure 4.3), further consensus categorised which of the QMs were most significant during the admission procedure and which were more likely to differentiate between a SPN and a NSPN. It was this distinction that helped fine-tune the tool to measure the RNs' behaviour during the data collection. The latter point is important because the sites for data collection employ the aforementioned homogenous admission tool (see Appendix N) during the admission procedure which contains various prompts. For example, a section of the form includes a prompt to orientate families to the ward areas including parent facilities. Other prompts include: explaining ward safety rules; asking if the child has a preferred name; ascertaining whether the parents will be taking part in their child's care. It was for this reason that the Delphi Panel was asked to identify which of the QMs differentiate an RN from a SPN because although some of the

QMs should be met by following the admission form questions, more is needed than a homogenous tool to ensure quality care is delivered during the admission procedure. The final tool, with the seven QMs was developed by considering the above information.

The literature repeatedly advocates that children who have health care needs should be cared for by RNs who have knowledge about their physical, psychological and social needs (Australian Commission on Safety and Quality in Healthcare, 2008; Grounds, McElnay, Choonara, Leonard & McConnell, 2001; Hockenberry & Wilson, 2011; Hoffmann & Krupnick, 2004; Potts & Mandleco, 2012). These needs change and differ as children grow and develop; thus paediatric nurses need to be aware of these changes, so as to adapt their nursing practices to the care children require.

Although some of the literature advocates for specialist education for paediatric nursing, the Commonwealth Government of Australia has adopted a generalist (Comprehensive Registered Nurse) rather than a specialist approach to RN education. What's more the Commonwealth Government's approach to children's nursing is not always clear. In the latest national review of nurse education, children and young people are not specified as being a distinct population but paediatric nursing is cited as a "future development for early career nurses" and linked to rural and Indigenous nursing as these groups "... require special skills and knowledge due to the client group" (Heath, 2002, p. 161).

The ambiguity toward paediatric nursing may be due to the confusing definitions used in Australia for children and young people. The Commonwealth Government of Australia (2010) defines children from birth to 14 years of age [Australian Institute of Health and Welfare (AIHW), 2008] and young people between the ages of 12-24 (AIHW, 2010; Eckersley, 2008). The tertiary hospital in Western Australia admits children up to the age of 16 (DoHWA, 2010); thus on their 16th birthday, children who are not established patients and in need of health care are referred to adult services. As is evident, Australia is at odds with some countries regarding paediatric health care, such as the U.K. (HMSO, 1969; Department of Education [U.K.], 2010) and the U.S. (One Hundred Sixth congress of the U.S.A., 2000). Both define a child as being up to 18 years of age and offer paediatric health care to this age group.

Professional and non-government organisations in Australia have much clearer policies regarding paediatrics. The standards of care for children and adolescents in health services

(The Royal Australasian College of Physicians, AWCH, Children's Hospitals Australasia, 2008) state that "Staff involved in the care of children ... should have special training ... recognise ... the special health ... needs of children ..." (p. 8). This edict is based upon best practice guidelines and expert consensus. Despite this, fewer than 30% of the RNs working with children have undertaken specialist paediatric nurse education (PMH, 2011) in Western Australia. In addition, unlike in the U.K., it is not mandatory for RNs to undertake further education in order to continue to work within paediatrics in Australia; neither is there a standard specifying the ratios of SPNs to NSPNs in any ward. As in all hospitals, ward managers must ensure there are sufficient RNs to maintain safety. Accordingly, the researcher has witnessed, in some general hospitals with paediatric wards, that it is immaterial if an RN has a specialist qualification in paediatrics. When adult areas are short of staff, specialist nurses are moved to busy areas (witnessed 2008-2009, WA). Ironically, this sometimes results in NSPNs caring for children whilst SPNs are nursing adults. This may be short sighted as Smith and Long (2002) suggest that moving specialist paediatric nurses to adult areas may increase attrition rates. Also, during the course of this research, some RNs explained that to undertake postgraduate specialist education means resigning from their current positions. Thereby they felt some pressure not to undertake the specialist course because they believed they would not be reemployed by the area if they resigned to undertake the study (Personal Communication, August, 2008 & November 2008).

This research explores the association between quality care in paediatrics and specialist nurse education. The paediatric hospital wards display cartoon characters and pictures, but this does not mean necessarily that children will view the wards as safe and friendly, or that they will receive the highest quality care. More substance is needed if quality care is to be delivered; for example, the manner in which children are spoken to or greeted when they are admitted to hospital are indicators of high quality paediatric care. This contention is reiterated in the following sections of this thesis. In addition to the QMs being recorded, other behaviours exhibited by the RNs were observed (see Chapter Five, Section 5.5), and these behaviours are discussed in this chapter.

Before discussing the results in more detail, one other consideration in this research which affected some of the results was an SPN whose behaviour was very different to the other SPNs; this SPN is referred to as an outlier.

6.4 Outlier

Outliers can bias the results of a study as their behaviour is “... very different from most others” (Field, 2009, p. 791). In this research, with all the measures combined, the QMs were tested for normal distribution by research cohort (see Chapter Five, Section 5.2). This revealed that one of the SPN's data (RN 56) was non-normal (Field, 2009). This nurse was identified as an outlier.

The videos of RN 56 were reviewed, seeking anything which may have adversely affected this particular SPN's behaviour; for example, was the child or were the parents particularly hard to communicate with or hard to engage? This did not seem to be the case as the behaviour of RN 56 was consistent during the admissions observed. It is possible the RN's behaviour was adversely affected by the research process (Hawthorne Effect); however, during a conversation with the researcher prior to the admission procedure, the RN appeared confident and composed. As none of the RNs was interviewed after the admission procedures, it is not possible to make any assumptions regarding this outlier.

As outliers can skew results, some statisticians manipulate their data, or adjust the results by removing outliers from their research (Field, 2009). During this research, the data were analysed with, and without, the outlier to assess to what degree the outlier affected the results.

6.5 Analysis of meeting the QMs

Overall, as the data collected for this research show, SPNs met the QMs significantly more often than the NSPNs, but the differences between the groups for meeting the individual QMs were inconsistent. Chi square was used to establish if there was an association between the two groups of RNs in this research and in meeting the individual QMs. The analysis showed a significant relationship between the groups and some of the QMs but not in others, especially where the relationship was not statistically significant.

The QMs which achieved statistical significance were:

- QM Two which concerns parents in relation to whether their child had been previously hospitalised or what they knew about coming to hospital; and
- QM Three which applied to parents only and related to whether RNs negotiated the level of involvement parents would have with the care of their child.

There was a trend toward significance (Bangalore & Messerli, 2006; Rosner, 2011) in the following QMs:

- QM One applicable only to children and related to the level of engagement by RNs with the child;
- QM Six concerning children and related to the degree of help given by the RNs to the child and parent in negotiating the admission procedure by being patient and using techniques aimed at making them feel more at ease with the admission; and
- QM Seven in the parent section relating to whether RNs involved the parents and the child in the admission.

In some of the results, the meeting of the QMs or not, thereby achieving statistical significance was affected by the outlier. This is evident from the analysis of three of the QMs with the data RN 56 being omitted. These were:

- QM One; (general)
- QM Six (parent section); and
- QM Seven (parent section).

There was a trend toward significance in the results of three of the QMs:

- QM Four meant for parents seeking the degree to which the RN used appropriate language during explanations and ensured that the explanations had been understood;
- QM Five applicable only to children and related to whether RNs talked to the child and used age and developmentally appropriate concepts; and
- QM Seven for evaluation of parental responses only.

The outlier possibly had an influence upon the statistical significance of the findings between the relationship of the level of the RNs' education, and of the individual QMs being met. The QMs which were least affected by the outlier were:

- QM Two asking a child about previous hospitalisations;
- QM Four using appropriate language, appraising the child of hospitalisation and assisting the child to understand procedures; and

- QM Seven deploying toys, such as a favourite doll, to involve the child and help to reduce anxiety during the admission.

The QMs which involved engaging and communicating with children indicated the weakest relationship between the level of education of the RNs and meeting the QMs. This result was surprising given that communication and understanding of the developmental ages and stages of children is a major aspect of paediatric nursing (Day & Levitt-Jones, 2009; Glasper & Richardson, 2011). A child's ability to understand procedures can have a major impact upon how apprehensive a child may be about the hospital environment and whether the hospital is able to gain cooperation during necessary procedures. If a child is anxious, parents often become more anxious. This increased level of anxiety in the parents increases the level of anxiety in children (Glasper & Richardson, 2011; London et al., 2007). This suggests that the level of specialist education that some of the SPNs have completed may need more emphasis upon the importance of communication strategies with children. The type of and length of the education courses the SPNs in this research had undertaken was not specified and this issue is discussed further in the limitations and recommendations sections of this chapter.

The inconsistencies between meeting the individual QM items could be attributed to factors such as the prompts on the admission forms (see Appendix N) because RNs may meet some of the QMs just by following the admission form questions; but this did not always happen. The inconsistencies may due to other factors not measured in this research but the researcher is confident that the inconsistencies were not due to any interactions not captured on the videos because in every admission filmed, the camera was set up in the room, before the RNs commenced admission procedures. Therefore, no rapport was established prior to the commencement of filming.

6.5.1 Quality Measure One

If the child can talk, the nurse should endeavour to engage the child in social conversation which may involve getting to the child's eye level to greet the child. If the child is a pre-verbal toddler this social engagement may include making eye contact and saying simple repetitive phrases.

Nearly 80% of the SPNs met QM One whilst fewer than 29% of the NSPNs met the measure. This was slightly above a statistically significant result - $p=.055$. But, when the outlier was removed from the analysis the result was statistically significant - $p=.03$.

Children: As QM One is not part of, or referred to on the admission forms, the RNs would need to have some understanding of child development to meet this QM. When strangers such as RNs approach toddlers during the admission procedure, this may be viewed as threatening (Kyle, 2008). If children are frightened, they are less likely to cooperate (Glasper & Richardson, 2011). Thus, this QM is important, for RNs who work with children to meet.

When attempting to engage effectively with the children, some of the RNs were observed to be meeting all of the QMs such as providing age appropriate explanations about the equipment. Some of the RNs either sat on the beds or crouched down to achieve eye level with the children. Some would ask about cartoon figures they had on their clothes and one RN used bubble blowing to engage with a particularly upset child. Many of these RNs asked the children if they were aware of the equipment in the room and one nurse complimented a child's drawing stating "... such a wonderful picture."

Contrary to the examples above, during 24 of the 68 admissions observed, no engagement with the child was attempted by these 24 RNs. Some notable examples during the admissions include an NSPN ignoring a screaming child, whilst the RN continued to ask the child's mother questions. The mother distracted the child and the RN simply said, "The doctor will be here soon." During another admission, an RN did not speak to the child even when the RN was measuring the child's vital signs of heart rate, respiration rate and blood pressure (BP).

Why this QM was not met by all the RNs, and why social engagement was not conducted, may be due to the accepted practices within the institutions, part the hospital culture, or the RNs' perceptions of these practices. For example, if children are being admitted for day surgery, the RNs may feel under pressure to ensure all the forms are completed in a timely manner so there is compliance with the operating theatre procedures. What's more, the scheduling of cases for day surgery is closely monitored and demands are made upon the RNs to ensure the cases for operating theatre staff, such as surgeons, are not delayed. This type of pressure was observed in 14 of the 68 admissions in which the paperwork was completed before any assessment was conducted on the child. Conducting an immediate assessment can not only detect a seriously ill child but it can at times reduce workloads. For example, a child was admitted for planned surgery, the admission procedure was completed, and the RN conducted an assessment. The child was found to have a high fever, rhinorrhoea which is a runny nose, and a moist cough. When the RN noticed these symptoms and called the anaesthetist the operation was cancelled.

If the assessment had been done prior to paperwork being completed, the anaesthetist could have been contacted sooner, and the child and family could have been sent home earlier. This would have saved the RN a considerable amount of time. Basic organisation practice had been ignored.

Completing the documentation first was not only observed in the planned admissions, this was also observed in emergency admissions. The literature suggests that the nature of the admission should be immaterial to the practice of good paediatric health care, because establishing age appropriate communication with children is essential in order for therapeutic relationships to be created. Thus, a thorough assessment should be conducted and a management plan developed prior to completing the documentation (Glasper & Richardson, 2011). Therapeutic relationships help overcome the increased levels of anxiety usually experienced by children when they are admitted to hospital. Therefore it is essential that RNs working with children understand and are able to apply knowledge regarding growth and development when nursing children (Glasper & Richardson, 2011). During the analysis of the RNs' behaviour in this research, the SPNs generally applied these skills and knowledge more effectively, than the NSPNs. But factors other than the individual RN's level of education may have been responsible for this finding.

6.5.2 Quality Measure Two

The nurse should try to discover if the child has been in hospital before. If child has been in hospital before, the nurse should endeavour to establish if the child is likely to remember being in hospital. If the child can talk the nurse should ask the child what they know about coming to the hospital.

Children: Although QM One was pertinent to all the admissions observed, QM Two applied only to children who were at an appropriate developmental stage. This resulted in QM Two not being applicable to 10 of the 68 admissions. Chapter Five explains that this QM was met but nine times in a total of 58 admissions; once by an SPN and eight times by NSPNs. The result showed no significant association between the groups in meeting this QM even when the outlier was removed. As this QM is a prompt on the admission form which records previous medical history that such a high proportion of RNs would fail to ask the children about their understanding of the hospitalisation processes was surprising, given that communication with children is paramount to establishing a good therapeutic relationship. The research sites both offer preadmission programs (see Chapter Two, Section 2.4). However, even though children may have attended a pre-admission program, they may not associate it with their hospitalisation

(Hockenberry & Wilson, 2011). Additionally, regardless of whether the child had attended a pre-admission program, it is still important to ascertain the extent of their knowledge about the reality of being hospitalised. Hockenberry and Wilson (2011) describe how fear of the unknown will distract a child, being the cause of unnecessary anxiety and resulting in a less trusting relationship being built with the child and family. Accordingly, clarifying what the family unit knows about the hospitalisation helps establish a good relationship and assists the child to focus upon and cope with the unavoidable stresses of being in hospital.

During one of the admissions observed, a five year old boy was asked by an RN if he had a heart problem. The RN proceeded to apply the BP cuff on the presumption that the device and the question may have been related; but no explanation was offered. Another RN asked a child if they had "... been here before?" and "if they [the child] know where things are." Following these questions, no further engagement was observed with the child.

Some good examples of RNs questioning children about previous experiences of hospital were apparent. An RN asked a child if she recognised the thermometer and where it went. This appeared to be a good technique in gaining cooperation with the child as it implied the child was familiar with the equipment. Another RN asked a child if they knew what a BP machine was. The child nodded and said it hurt a bit. The RN acknowledged that the squeezing did hurt which appeared to reassure the child. Another RN complimented a child on his memory about being in hospital before and his understanding of the hospital procedures.

Parents: Although few RNs asked children about their previous experiences of hospital, the majority of parents were asked if their child had been in hospital before. There was a significant association between the SPN research cohort and meeting this QM - $p=.035$. Two of the SPNs and 13 of the NSPNs did not meet this QM.

One RN asked a child's mother what she had told the child about the admission. Another RN who had taken part in a pre-admission program recognised the family and this appeared to visibly relax the parents. These techniques seemed to be effective in helping families become more comfortable with the admission procedure. By asking the child and their families what they remember about previous hospital admissions not only enables any misconceptions to be explained but facilitates the start of a therapeutic relationship which can help prevent unnecessary hindrance of the child's recovery while in hospital (Klossener & Hatfield, 2006). In

addition, establishing what the child and the parents know about the admission process may lessen the lack of control which is often experienced by children and parents alike when a child is hospitalised (Kyle, 2008).

The literature recognises the importance of determining previous hospitalisations of children. This helps to prevent unnecessary anxiety and fear in the child and family and even though it is part of the admission forms, children were not asked about this by most RNs. This may be due to RNs assuming preschool children will not understand but the parents will. This was evident as most parents were asked about previous admissions of their child. Although it is difficult to understand why children were not asked this question, in this research the SPNs appear to have recognised the importance of this quality measure more than the NSPNs.

6.5.3 Quality Measure Three

The nurse should endeavour to establish or negotiate with caregiver(s) their level of participation in care-giving.

Parents: This QM applied to parents only. Care by parents or carers is a major component of family-centred care (FCC), a cornerstone of paediatric nursing. However, only 6% of all of the RNs were observed at admission to ask parents about their level of involvement in their child's care. Therefore, the significance of the relationship between the two groups in this research and meeting this QM was difficult to establish - $p=.013$. The RNs may have assumed that parents would participate, or decided that the negotiation with the parents should be postponed. However, the latter point seems less likely because many of the children were admitted and prepared for their operations quite quickly. In addition, children who were classed as emergency admissions had their treatment started without any visible signs of care being negotiated with the parents. FCC describes supporting families through their child's journey of hospitalisation (Colman, Smith & Bradshaw, 2003), consequently, it should be introduced at the outset.

The national guidelines for hospital-based care (ACHS, 1998) advocate negotiation with parents about their level of involvement in care. Also stated in the hospital's nursing care standards manual is: "Negotiate with families to determine their level of involvement in the direct care of the child" (DoHWA, 2006). While this philosophy of carer involvement is overtly displayed in each ward, it was not often raised by the participants in this investigation. This element creates a measure of incongruence, given that families are expected to undertake aspects of their children's care. An example of a family continuing to undertake care was noticed when a child

was admitted with a chronic condition. The child's mother told the RN she was going to check her daughter's blood sugar level again. This was done in a competent and confident manner by the child's mother without input from the RN. Thus it is possible that RNs endorse parents to continue to perform tasks they routinely carry out at home when a child has a chronic condition. Contrary to this possibility, Shields and Tanner (2004) suggest that nurses have less confidence in parental roles in hospitals despite parents thinking that nurses respect their position as main care givers. Although the Shields and Tanner study investigated parents of children with complex needs (n=50), this perceived lack of confidence by nurses may explain why so few RNs in this research negotiated the level of parental involvement.

The observations made herewith were that the parents of children with complex needs seemed more confident in undertaking care tasks. This observation is in accordance with the Shield and Tanner study, wherein the only observations of parents who spontaneously undertook nursing care tasks for their children were of those who had a child with a chronic condition.

Another exemplar of negotiation with, and respect for a parent observed in this research was the instance when an RN intended to apply a pulse oximeter probe (SpO₂) on the child but the mother suggested "... it would be better left until the child goes to sleep" a suggestion to which the RN immediately agreed.

While it is important to acknowledge that parents of children with chronic conditions are keen to, and capable of performing some clinical interventions, it is as important that these interventions are discussed and negotiated with them. Some parents/ families are less comfortable with, or less used to the hospital process: they would be aided to feel less disempowerment and ultimately, less anxious through discussion and support. Conversely, if parents are asked to undertake tasks without discussion or support, it is likely to increase their level of anxiety and decrease their level of involvement (Kristensson-Hallström, Elander & Malmfors,1997).

The Kristensson-Hallström, et al. (1997) study did not include children with chronic illness when negotiating care but focused upon day surgical units. They found that if parents were given detailed information and support about post-operative care, they were able to undertake most of the relevant care. Benefits flowed for the children: they took oral fluids earlier; they had less post operative vomiting; they had less reported pain; and they were discharged earlier from hospital than children without a similar level of parental involvement. Therefore major benefits accrue

when negotiating with and supporting families to participate in their children's nursing care. While the number of RNs in the Kristensson-Hallström, et al. research was small, the level of the nurses' education seems to have had some bearing upon negotiating care with parents and the level of FCC implemented. Similar findings to Kristensson-Hallström, et al. also occurred in this current research as the SPNs seemed to implement FCC and negotiate the level of parental involvement more often than the NSPNs.

6.5.4 Quality Measure Four

When providing explanation to the child/ caregiver(s) the nurse should use age appropriate language and/ or concepts and use culturally appropriate language. The nurse should assess if the child and caregiver(s) have understood the explanations by reframing their responses.

Children: This quality measure was observed during less than half of all the admissions of the children. There was no significant association between the groups and meeting this QM - $p=.238$. When the outlier was removed, the result was still not significant - $p=.192$.

More than half of the SPNs (55%) and 41% of the NSPNs met this QM. This was also a surprising result because a crucial component of paediatrics is using age appropriate language and concepts to avoid misunderstandings or to prevent unnecessary fear in children (ACHS, 1998; Glasper & Richardson, 2011). For example, preschool children are often quite literal in their understanding of words and using phrases such as "put to sleep", often used for being anaesthetised, may make them think of pets which have been euthanised. Similarly, using the word "dye" for a diagnostic test may evoke fear that they are going to die (London, et al., 2007). Therefore, this QM is extremely important to help children become less anxious during the admission procedure. This was exemplified when an RN was observed telling a child that the cream on the hand was magic so that when the straw was put in the child's hand, he would not feel it going in. However, children often associate straws with drinks and may not understand this analogy.

The communication skills of the RNs varied during the admissions. A common phrase RNs used ($n=11$) was, "I'm going to put this in your ear" when using a tympanic thermometer. One RN did ask a child for permission to put it in his ear. When one considers the literal nature of toddlers and preschool children, these types of statements may evoke fear in children. Perhaps a more appropriate phrase would be something akin to "I'm going to touch your ear with this machine/ equipment." The aforementioned RN who asked if the child had seen a thermometer,

explaining, “It takes your temperature”, may also have evoked fear as this may imply to the literal mind of a toddler that something is being removed. Very few of the RNs actually showed the equipment to the children before using it; one of the RNs asked a mother to hold her child’s head before using the thermometer without any explanation. One of the RNs showed the child the thermometer, explaining that it made a “... beeping noise when it is popped in your ear.” This seemed to engage the child and even if the explanation was interpreted literally, the use of other child friendly techniques may have helped overcome any misapprehension. This flexible approach, when used in combination with knowledge about child development, may be more important than the actual phraseology employed.

One child who had had a nasogastric tube (NGT) inserted asked why it had been done to her and was told by the RN that “she was lucky to have it in.” This was not followed with any other explanation and the RN left the room. It is unlikely that the child felt “lucky” given that Crellin and Johnston (2005) had testified that children reported that NGT insertion as being severely painful.

Another piece of equipment used frequently but not always explained was a blood pressure (BP) machine. One RN acknowledged that the BP cuff hurt which seemed to help the child whereas when other RNs told children that it did not hurt, the explanation did little to help as observed from the facial grimaces of some of the children. Another RN used age appropriate descriptor by saying the BP cuff gives “a big hug.”

An RN tried to explain what the SpO2 measured, starting to explain about blood haemoglobin levels. At the moment the nurse mentioned blood, the child became quite anxious about the SpO2 probe, as he immediately withdrawing his finger and asking, “Am I going to bleed?”

Techniques which appeared to help reduce anxiety included telling the children to watch the numbers on the machine (distraction) and using age-appropriate words such as “squeeze” or “tight.” One other effective technique in helping children visibly relax was the RNs thanking the children when they cooperated or, saying “they were a good boy/ girl” reinforcing the importance of flexibility in the nurses’ approaches, coupled with recognition of child developmental stages (Glasper & Richardson, 2011). Positive strategies such as these enabled children to relax more during the hospitalisation period.

Parents: More RNs in the study provided explanations to parents than they did to children (n=57). There was no significant association between the two groups of RNs in meeting this QM ($p=.195$) although when the outlier was removed from the analysis, the p value indicated a trend towards significance - $p=.079$. This QM was not met by 8% of SPNs and 20% of the NSPNs. When waiting for their child to be admitted to the wards or departments, it was not uncommon to observe families becoming frustrated with the hospital processes. This frustration could have been lessened if more of the RNs apologised for the length of time the families had had to wait and gave approximate times for coming attention. Families are frequently told to arrive at the hospital by a certain time. This may be as early as 0630 hours but invariably the admission procedure is not completed until the next shift arrives, often around 0700 hours or, until a doctor arrives to either confirm or refute the need for an operation as was the case in some of emergency admissions for trauma or abdominal pain. On one occasion, following a traumatic injury to a child's finger, the family were told to arrive at the hospital with the child fasted by 0800 hours only to be told the doctor would not be arriving until 1130 hours. There was no attempt made to explain to the family why the child had been asked to arrive early. For example, if the explanation was about operating theatre availability and its emergency use, the family may have been appeased. But, no explanation was offered and the family became increasingly frustrated.

One other aspect of this QM related to the language used by the RNs. The use of jargon is discouraged in all specialties within nursing. However, jargon was heard during 11 (16%) of the admissions. An RN asked a child's parents if he had "... Panadol PRN ..." another nurse told a child's mother that the child needed "a bolus of fluid." Another RN explained to a child's father that she was checking the child's "sats" (SpO₂) but did not tell the father what this meant or the result. Another RN told the family that the child needed "Emla for the GA" whilst another told a parent that their child was "afebrile." The use of jargon was observed many times despite it being a major barrier to effective communication (Farrell, Deuster, Donovan & Christopher, 2008). Perhaps the most ambiguous statement heard was an RN informing a child's parents that, "His BP was # over # but the machine is not terribly accurate and I'm sure his BP is okay". The RN's statement contained jargon and did nothing to explain the meaning of the result or that the machine may have been faulty. Nurses who clarify observations help forge trusting relationships which are essential to FCC (Coyne, et al., 2010; Day & Levitt-Jones, 2009).

It is not only medical jargon which can be confusing; hospital processes can be meaningless to families. For example, some of the children had red stickers on their charts and red name bands for their arms. One parent asked the reason for the red bands on his child and was told that the child must have an allergy and the stickers “lessen the chance of their child being given the wrong medication.”

The literature describes the anxieties of parents who have a hospitalised child (Glasper & Richardson, 2011; Hockenberry & Wilson, 2011). It includes not only fear for their child but such practicalities as getting home to collect other children from day care or schools. Some need explanations about visiting times and other facilities. Many of these are explained in the hospital handbook but, if the parent has not had the opportunity to read this, then they may want answers about these practical matters sooner. For example, a parent asked about car parking but the RN said she did not know anything about this and did not offer to find out.

Nevertheless, there were many observed examples of RNs communicating effectively with families. The most effective styles observed seemed to be of the RNs who sat down in a relaxed, professional style opposite the parents and child. They did not engage in the paperwork immediately but either examined the child or asked the parents questions prior to completing the forms. One RN completed the process then asked the family if they had any questions. This was reinforced by the RN informing the family to interrupt at any time if they had a question. This RN then reiterated the proposed plan of admission. This appeared to be an effective means of communicating with children and their families. Although there was not a statistically significant association between the groups and the meeting of this QM, 22 of the 24 SPNs and 35 of the 44 NSPNs met this quality measure.

6.5.5 Quality Measure Five

If the child can talk the nurse should intentionally try to connect with the child. This may be demonstrated by the nurse explaining to the child what the nurse is going to do using words and phrases the child is able to understand and which are appropriate for child's developmental age.

Children: This QM pertained to children only. There was no significant association between the groups and meeting the QM - $p=.137$. With the outlier removed, the result showed a trend towards significance - $p=.086$. Many of the observations for this QM have been described in the above section for example, putting the thermometer in the child's ear etc. However, this is a separate QM to observe how the RNs interacted with children.

More than 23% of the RNs observed did not engage with the children during the admission procedure. Some RNs were observed relating certain matters to children, for example, while engaging in a sleeping child's vital sign assessment - temperature, pulse and respiration rate - the child awoke, distressed and possibly confused. The RN immediately pointed out where the child's father was and the child visibly relaxed. Conversely, children were observed in a distressed condition but the RNs avoided engaging with them. For example, when a child was admitted following an animal bite, the RN checked the bite without talking to the child so the child became restless. The RN told the child to be still and got the father to hold the child whilst the examination was completed. Another child was admitted for animal bites, a student nurse being present, chatting to the child. However, when the admission was completed, the child started speaking to the RN who did not respond.

There were two examples of parents being told to take their child to the play room to await completion of the admission procedure, coincidentally, there being more than one carer present. Both these children had learning difficulties but there was no attempt by the RN to engage with these children. Another RN ignored a child who came to show off a toy. One child had had an intravenous device, a cannula, inserted by the emergency department. The child was quite distressed by the device, but the RN gave no calming words of explanation. The lack of professional explanation was emphasised when the child's father explained purpose of the device, reassuring the child.

When the local anaesthetic cream was applied to two children, no explanations were offered as to what it did and why it was on the child's hand. A parent became quite persistent in requiring an explanation of the cream's purpose the RN remained evasive with their explanation.

During three of the admissions, the children became quite distressed when their BP was being recorded. This seemed to prompt the RNs to engage with these children, agreeing with or explaining to the child that the cuff was uncomfortable or even hurt a little; this seemed to be effective in calming the child. Young children often use fantasy to cope with their lack of knowledge about ill health and are therefore more likely to have misconceptions about investigations being performed such as the BP cuff continually squeezing their arms for the duration of the admission (Glasper & Richardson, 2011).

Despite 16 of the RNs not engaging with the children when admitting them, there were some examples of high quality engagement. In 23 of the observed admissions, immediately upon entering the room, these 23 RNs smiled at the children. If the families had been left waiting for some time, some of them apologised to the families. Several of these RNs engaged in eye contact with the child by either sitting on the bed during the admission procedure or crouching down. Several RNs asked the children what they liked to be called and then the RNs introduced themselves. On two occasions, cartoon characters were used as props to initiate engagement with the child. During another admission, a young toddler said hello to the RN who responded with an enthusiastic smile and a greeting. Throughout the admission the toddler repeatedly said “Hello” to the RN and on each occasion, the nurse responded in same manner, much to the obvious delight of the child.

There were also examples in which the children were shown the equipment before the RNs used it. During three of the admissions, the RNs asked the children which finger they would like the SpO2 probe applied. Another RN asked a child to remember their own weight. A little later when the RN asked if the child remembered and received a positive response, the child was praised by the nurse who “admitted” having forgotten it herself. Showing children medical equipment and giving some explanation to what it does may help prevent some of the anxiety developing in children because they are generally happy to play with such items unless they have had a negative, previous experience of hospitalisation (McGrath & Huff, 2001). One RN did not use the term operation but mentioned that the child’s tonsils would be fixed. This type of explanation helps alleviate fears young children often develop about hospitalisations (Glasper & Richardson, 2011; Hockenberry & Wilson, 2011).

In the independent inter-rater’s report about the admissions observed, the main feedback concerned the manner in which some of the RNs engaged with the children. The inter-rater, a clinical psychologist, described this as the “quality of presence” and how it seemed obvious that although some of the RNs were asking questions of the children and the families, they did not really seem to be present and in some instances, children tried to engage with them but gave up. The clinical psychologist did not specify which of the nurses was delinquent in this important matter; thus it was not possible to identify to which of the two groups this was more common. Nonetheless, appropriate education regarding child development is essential for RNs working with children in order for them to understand the importance of using age appropriate explanations and techniques to engage with children.

6.5.6 Quality Measure Six

The nurse should endeavour to help the child through the admission procedure and demonstrate sensitivity and use strategies to deal with a child reluctant to engage in any part of the admission procedure and not appear to rush the child by showing patience and tolerance.

Children: Although some of the focus of this QM was on children who were reluctant to engage in the admission procedure, the foremost part of the measure was applicable to all of the children through RNs demonstrating sensitivity to children and their families. Four children showed no signs of distress during the procedures, all of these were admitted by NSPNs. There was no significant association between the groups in meeting this measure with children - $p=.102$. When the outlier was removed there was a trend toward significance - $p=.063$.

Some of the aforementioned comments relate to such aspects of this measure such as the RN ignoring a child who sought attention by showing off her toy. This type of observed behaviour did not demonstrate sensitivity toward the children. Another such example was demonstrated during the 14 admissions (20%) wherein the paperwork was completed before any engagement was attempted with the child. Another behaviour observed during seven of the admissions (10.3%) was the RN standing over the child and family during the admission procedure. By not getting to the child's level, they appeared to be less sensitive to the child's needs. On one occasion, an RN did not make any eye contact with the child, even during auscultation of the child's chest. Personal contact at the child's eye level was one of the original 24 quality measures identified by the Delphi Panel as being important, especially for younger toddlers with limited vocabulary (Kyle, 2008; Weller, 1986). The "lucky" child who had had the NGT inserted complained the tube was stopping her from swallowing. The RN told the child's mother that "... there is no reason for this to happen ..." but offered no explanation to the child nor inspected the child or the tube to ensure there were no obvious complications. It may be that some children do experience dysphagia, difficulty in swallowing, with an NGT but health care professionals who do not listen to children or check devices are not ensuring the child's best interests are being met (Glasper & Richardson, 2011). When an 18 month old toddler was shown the smiley face pain-scale-tool (Wong & Baker, 1988) the RN said "... the smiling one isn't him, maybe the sad looking one is." This pain assessment tool is not useful in children less than three years of age and is used as a self-assessment tool to help children express their level of pain (Hockenberry & Wilson, 2011). The toddler was being admitted for day case surgery and became more restless so the large cot sides were raised. The child tried to talk to the RN but was ignored.

Patience and tolerance are important in helping children through the admission procedure (Hockenberry & Wilson, 2007; Kyle, 2008).

Examples of RNs using strategies to engage with children include the nurse blowing bubbles. This was an effective technique which did calm the child significantly. Other techniques observed to help children included: using a pen torch as distraction during the recording of vital signs; using toys as a distraction; and giving children some part to play in explanation of the procedure. This style of encouragement was observed during five admissions (7%). One RN asked, "Which wrist would you like the name band on?" Another asked "which finger would you like the SpO2 probe placed on?"

Parents: When this measure was applied to the parents, one of the SPNs and seven of the NSPNs did not meet this QM. There was no significant association between the groups and the meeting of this QM ($p=.151$). However, when the results were analysed without the outlier the result achieved statistical significance - $p=.043$.

It is an important to recognise that parents do become distressed when their child must be admitted to hospital (Fereday & Darbyshire, 2008; Mansson & Dykes, 2004). This seems to have been recognised by most RNs in this research as the measure was met by 88% of the sample. Although many of the RNs interacted with the children and their parents in a timely, age appropriate manner, during 11 of the admissions observed (16%), families were left for long periods of time before the actual admission procedure started. This also pertained to QM Four, (see Section 6.5.4). A family being left alone for lengthy periods was not a quality measure identified in the literature or by the Delphi Panel. The researcher could not find any reference as to how common this matter is or indeed what is an acceptable amount of time a family should be in limbo until the child is admitted to a ward or department. Obviously this will depend upon workloads, but this was observed, not only during wait list admissions but also during emergency admissions. Common occurrences included: families being left alone after being shown to their children's bed by a ward clerk or another nurse, for example one family was left alone for an hour; and no acknowledgement being made of the time the family were left waiting. On one occasion, an RN kept the family waiting for 20 minutes before entering the room and starting the admission paperwork; then leaving the family alone for another 10 minutes without any explanation. This may be an issue because children and families have longer periods of time to

become more fearful and distressed. This practice, if widespread, is insensitive towards parents, leaving families without any understanding of procedures or what are the expectations of them.

Some of these findings have been documented in the literature. Young et al. (2006) found that parents of younger children in the 13 months to five years group reported a lack of sensitivity toward their needs. Sensitivity toward anxious parents is important because as Fereday and Darbyshire (2008, p. 4) deduce, "... there is no such thing as minor surgery where your own child is concerned." Thus, leaving families for lengthy periods prior to the admission procedure would not be considered as being focused on meeting parents' needs.

The lack of information and direction from RNs has been reported as increasing parents' anxieties (Coyne & Cowley, 2007). Although these authors were describing the on-going care of children, it is not hard to imagine that similar fears may be evoked at the beginning of a child's hospitalisation. If workload is a reason why these families were left for lengthy periods, then this is significant because when parents observe busy RNs, it also adds to their anxiety regarding the care their child may receive as they fear the nurses may be too busy to deliver appropriate care (Coyne & Cowley, 2007). Timely, accurate information facilitates trust of nurses and of the hospital; therefore, it is important to engage with families to enable a trusting relationship to develop (Potts & Mandeleco, 2012). A possible reason the families were left alone prior to admission was reported by Coyne (2007) who observed that parents were expected to act like invited guests by the wards. To alleviate parental anxiety, Coyne and Cowley assert that nurses should maintain contact with families, even when they have to wait for procedures to be implemented, and especially during busy times. The RNs should go to the families, briefly explaining to them the reasons for time delays and enquiring of any immediate needs. Acknowledging that the parents are not guests is helpful as shown by two nurses who apologised for the long wait, even though one of these periods was relatively short, eight minutes.

In paediatrics, privacy is more often than not associated with adolescents but Pelander and Leino-kilpi (2004) describe their study of 40 children younger than 11 years of age, 16 being younger than six years, who sought privacy in hospital. Similarly, Schaffer, Vaughn, Kenner, Donohue and Longo (2000) reported that parents also found the lack of privacy unsatisfactory in the overall care experience. The hospital environment does not allow for all families to have individual rooms. However, as London et al. (2007) recommend, in these circumstances, a

lounge or vacant room can usually be found to engage in any personal exchange of information such as happens during the admission procedure. Rylance (1999) observed that the lack of private rooms was not the only limitation. There was also a lack of thought about the person being assessed/ examined as health care professionals did not value privacy. During data collection for this thesis, it was observed that if children were being admitted for wait-list surgery, they were often admitted to four to eight bedded areas without any privacy offered. Even when children were being admitted as an emergency, privacy did not seem to be considered. One RN sat at the end of the bed in a busy, six-bedded area and asked the questions of the father who sat with the child at the other end of the bed. Another RN caused some embarrassment to parents by assuming their three year old child was out of nappies. The most obvious time when privacy appeared not to be a consideration was when children were admitted to rooms with only two beds. However, during some of the admissions, RNs tried to provide some privacy to the families by pulling the curtains closed.

If a child was admitted to a specific day surgical unit, this was not an issue as the admissions were all conducted in individual rooms. Also, if a child had a respiratory condition or a suspected gastro-intestinal tract infection, they were isolated which meant that these admissions were also conducted in privacy. Only one RN was observed actively inviting the family to come to a quieter area of the ward so they could have some privacy.

This research was conducted on the premise that factors like privacy should be a universal nursing attribute and that describing procedures should be mandatory. The RNs who sat down and introduced themselves before giving an explanation of necessary procedures, seemed to put parents at ease. Any attempt to provide more privacy by RNs pulling the curtains around the bed seemed to help relax families. But, the RNs who commenced the admission by completing forms seemed not to address parental anxiety. Whether this QM can be addressed by specialised education or whether it is met by personal attributes such as manners and consideration is hard to ascertain, but recognising that the admission procedure can be a worrying time for parents and children is an important aspect of paediatrics. What the hospital may perceive as a minor procedure may cause excessive fear in a child (Glasper & Richardson, 2011; London et al. 2007) and this factor should be included and emphasised in specialist paediatric education.

6.5.7 Quality Measure Seven

The nurse involves caregiver(s) in procedures. If a child appears to be frightened or reluctant during the procedures, the nurse should be sensitive to cues. Nurses should use a toy e.g., a doll or teddy bear that the child is familiar with in attempt to aid the child to feel more at ease with parts the admission procedure.

This QM was met by eight SPNs and 17 of the NSPNs. It was not applicable for ten of the admissions (seven NSPNs and three SPNs) as these children displayed no obvious fear or anxiety. There was no significant association between the groups and the meeting of this QM - $p=.205$. When the outlier was removed, the result was still not significant - $p=.127$. This QM was not met by 45% of the NSPNs and 25% of the SPNs. Many of the RNs used what appeared to be preventative strategies by getting to the child's eye level and smiling at the child. This approach to children is important to relationship building (Kelsey & McEwing, 2008). Sensitivity and kindness are helpful in relationship building with children and families as [a] "... gentle and kindly demeanour ..." reassures and helps "underpin trust" (Kelsey & McEwing, 2008, p. 4)

Children: Being sensitive to the cues of children and parents was evaluated in part of this QM. The RNs who engaged with the children appeared to divert any observable fear in the children by the manner in which they described the process and their body language of getting to the child's eye level. However, RNs were observed who obviously did not engage with the children, and did not seem to be aware of relevant cues. They did not look at the children; being mainly intent on getting the paperwork completed.

Meeting this QM is not only helpful for building a therapeutic relationship during current admissions but this approach helps ensure that any future admissions to hospitals evoke less fear in children. This is important because many children are readmitted to hospital for either the same condition or other conditions. Berry et al. (2011) reported from a group of U.S. hospitals in the Chicago area, that 20% of children were readmitted to hospital within a twelve month period. In Australia similar data is collated by medical condition, for example, re-admission rates of children with asthma or by events such as ingestion of medications. But, similar to the U.S. figures, the Australian Centre for Asthma Monitoring (2010) reported that from 1996 to 2005, approximately 5% of children younger than five years were readmitted to hospital within 28 days due to a relapse of the asthma condition. Therefore, it can be assumed that many children are going to be readmitted to hospital and the admissions must not be seen as terrible experiences but as "... positive, constructive ..." (Kelsey & McEwing, 2008, p. 4).

Even though there was not a statistically significant relationship between the two research cohorts and helping children through the admission procedure, the observations made it evident that meeting the QMs helped the children to be less frightened of the hospital's procedures. Logically, having the QMs as a high priority during the admission procedure can best be ensured through education. The QMs which relate to children are important as they focus upon children's developmental age and their emotional needs and wellbeing which, as Glasper and Richardson (2011) surmise, are as great if not greater than children's physical needs. In addition, focusing on the emotional needs of parents also helps families cope better during a hospital admission, which in turn, helps children through the admission procedure (Glasper & Richardson, 2011; London et al., 2007).

Parents: Involvement also helps with parents' perceptions about hospitals and the RNs.

Involving parents in aspects of their child's care are fundamental to contemporary paediatric nursing. During this research, no significant association was detected between meeting this QM and the level of RN education - $p=.079$, but when the outlier data were removed from the analysis, the result achieved statistical significance- $p=.035$. Many examples have come to the forefront regarding the importance of helping parents during the admission process of their child to hospital. When analysing QM Six, leaving families unattended was discussed; this is also pertinent for QM Seven because if parents are left for long periods of time their anxiety levels increase.

Being sensitive to parental cues showing agitation was observed during three of the admissions. One of these was observed as being quite hostile to the hospital/ RN. The child had special needs and had been admitted to the ward on many occasions. The RN did not pursue the obvious hostility but focused upon the child by asking the mother questions. The child needed a special diet but the wrong meal had been delivered. The RN immediately promised to rectify this. The interaction with the child's mother appeared to be difficult and perhaps due to familiarity or issues from previous admissions, was the reason for the parent's cues being ignored. Another father queried the number of blood tests his sleeping child would need, the child having ingested a large dose of a medication. The anxious father was told in a matter of fact manner "... they're repeated 12 hourly" the RN informing the parent that staff "... would be back in an hour." This was also observed in the aforementioned admission regarding the reason for the use of red stickers. The RN did not respond to the father's obvious agitation. However,

as this RN repeatedly left the child and family to collect further equipment, the parents appeared to become bemused by the RN's frequent trips. As London et al. (2007) describe, noticing subtle nonverbal (and verbal) cues is important because they may indicate that families feel they have inadequate information about their child.

Several of the RNs did notice cues from parents, these being noted as examples of good practice, such as repeating what was likely to happen to the child after the admission procedure had been completed. Another worthwhile example had an RN encouraging the parents to ask questions at any time and showing them the nurse-call-button if they needed anything at all. During one of the admissions, an RN noticed that a parent appeared quite bored by the procedure, then apologised that the paperwork took so long explaining it was necessary. Acknowledging parental concerns is important because of how children will often react to the behaviour of their parents. Anxious parents will increase the anxiety and fear of their child. Therefore, it is the responsibility of health care professionals, especially RNs, to ease this level of anxiety by maintaining a good relationship with families (Kyle, 2008). Involving parents in the nursing care of their child is a significant step in the process of family centred care.

Family centred care (FCC) is part of paediatric nurse education but there are factors other than education which may influence the practice of FCC. Coyne (2007) related some of the factors which influenced 'encouraging behaviours' by nurses. These included: the nurse being married; the nurse being a parent themselves; the nurse being in a senior position; and the nurse having a high level of education. These factors were not found in this research as there was no correlation between seniority/ experience and meeting the QMs. This may be because Coyne's research was conducted in a country where paediatric nurse education is more common for senior RNs working with children, whereas in Australia this is not the case.

6.5.8 The effect of independent variables of age and experience

This thesis has noted many statistically significant differences between the research groups and the overall meeting of the QMs. Also, there were statistically significant associations in meeting some of the individual QMs and the level of RNs' education. Nevertheless, these differences cannot be attributed to the level of education from the results to date; other independent variables were analysed as other possible reasons for the differences.

The researcher analysed the amount of times the QMs were met taking into account the age differentials of the RNs. The rationale behind this was that the more mature a person is, the more they may meet the QMs due to their life experiences. Or, the older a person is, the more chance there is of them having their own children or having nephews or nieces who unconsciously provide behavioural guidelines. Having one's own children was a variable which was not accounted for but may have been useful to have asked which of the RNs had their own children and/ or which of the RNs had regular contact/ association with young nephews and nieces. Having such contact with the very young may make it easier for an RN so endowed when communicating with children. However, the RNs were not asked this as it may have implied that being a parent or regularly being in close proximity to children automatically makes one an SPN. The analysis of the age of the RNs had no influence on whether the QMs were met or not.

Experience or years in nursing was another variable which may have affected the results. The researcher analysed the number of times the QMs were met and accounted for the length of time the nurse had been an RN. The rationale for this was that the more experienced the RN, the more likelihood of them being able to communicate more readily with the young and their families, while conducting assessments thoroughly. This thesis found the analysis of the length of time the nurse had been an RN had no influence on meeting the QMs.

The remaining independent variable analysed in this research was the length of time the RN had worked within paediatrics. This included any significant breaks the RN may have had such as leaving nursing due to child-birth, or leaving paediatrics to work in another area of nursing. The analysis of the number of years the RN had worked within paediatric nursing did not influence whether or not the QMs were met.

What was evident when analysing the data related to independent variables was that the level of education (SPN) was consistently a significant predictor of whether the QMs were met or not. However, further research, with a larger sample size is needed to confirm the results for the independent variables.

Although the differences between the groups may still be as a result from education both general and particular, the differences may also be attributable to other factors not measured in this research. Although having a specialist education qualification is not a professional

requirement in Australia, education is significant in paediatric nursing care and is valued by the nurses observed. The next section briefly describes the perceptions the RNs have about education and how it has affected their delivery of care.

6.6 Perceived influences on behaviour: RNs' attitudes

The purpose of the follow-up survey was to ascertain what the RNs' perceived as major influencing factors on their care delivery behaviour. The questions included influences such as: personal experience of hospital care such as being an in-patient and including that of their own children; influence of mentors or colleagues; influence of hospital policies; individual encounters with children and families; and their level of education in nursing (see Appendix M). The RNs were asked to what degree they perceived the above factors having influenced their behaviour; and the level of influence: little, moderate or considerable.

Colleagues/ Mentor: More than 50% of the respondents felt that a mentor had a moderate level of influence on their care behaviour and a similar percentage reported that colleagues also moderately influenced their behaviour. In addition, negative reactions of children and parents moderately influenced behaviour of approximately 70% of the RNs. The reasons for these reactions being influential can only be speculated upon, but it is important for paediatric RNs to adhere to the principles of FCC at all times, even when families are more challenging. The approach RNs take to children and families should not change but from the RNs' responses, it seems that some do change their behaviour following negative reactions of children or parents.

Hospital Policy: Procedures such as ensuring operating theatre packs (paperwork) are completed correctly and that the admission forms are completed in a timely manner influenced behaviour in 61% of the RNs. This begins from the moment families arrive at the hospital because, with early morning wait-list surgery, families are given a specific time to arrive to the ward. This usually coincides with shift changes which often result in an admission procedure not commencing on time. For example, a family was told to arrive at 0645 hours; they were admitted at 0745 hours.

Another process conducted by the hospital is when children are admitted via the ED for a surgical condition. If the surgeon is in theatre or outside of the hospital, the ED staff will request that the child can be transferred and seen on the ward by the on-call surgeon. But these requests are usually refused by the person in charge of the ward. The rationale for the refusal is

that if the child does not match the admission criteria, i.e. without a definitive diagnosis, then it would be a wasted admission. Therefore, the nurses on the wards usually insist the child and their family remain in the ED to be seen. This can sometimes be for many hours, especially if the surgeon is delayed in the operating theatres.

Another process observed several times in the ED was when children who appear clinically stable and have been allocated a bed on a ward, but are kept in the ED until a doctor thinks the child is ready to be transferred (personal communication, 2008-2010). It is not clear what clinical parameters these delays are based upon and although this seems to increase the family's frustrations with the hospital, these decisions were not observed to be questioned by the nurses.

Another common process observed was in the transfer of a child to a ward; the admitting RN may be at a coffee or lunch break which results in the families being left until the breaks are over. One family was told of an impending transfer to a ward but not until the practicalities of ward preparation were completed. Whilst waiting for the child to arrive on the ward, the researcher witnessed staff breaks being organised, staff attending to their breaks and not until the breaks were completed was the room made ready and the child was transferred but this was two hours later. Ensuring RNs get adequate rest and a break is important but one questioned why the children could not be transferred sooner. If RNs' breaks coincided with an admission, a quick assessment could be conducted and an explanation given as to how soon the admission would be completed. This may enhance quality and lessen the frustration of families. What was clear from the video observations was that the RNs were procedurally competent. For example, they conduct physical assessments on children competently; they ascertained histories of the child's reason for the admission, and various other related procedures. But the RNs' behaviour was often influenced by the hospital processes or the RNs' perceptions of these. For example, the paperwork had to be in the correct order because "... theatre staff get cross if they [forms] are not in order ..." (Personal Communication, 2008-2010) and the admission has to be completed "... in case theatre calls for the patient." The hospital policies are in place to help safeguard patients but it makes no sense that RNs seem to feel compelled to complete forms before they assess a child. This was even witnessed when a child was admitted with a head injury.

However, not all of the RNs completed the paperwork before engaging with children and their families. Many of them greeted the children and their families, first engaging with them socially. They explained the likely course of events, and let the children handle the equipment, then they assessed the children's health and completed the paperwork.

6.6.1 Comments regarding influences on behaviour

The RNs were asked to comment on other things which influence their behaviour such as other areas in which they had worked. They were also asked to write about influences which have a negative impact on their nursing practice such as workloads. Finally they were asked to comment on anything else they felt was pertinent to their nursing practices. Six of the SPNs and 20 of the NSPNs made comments.

One RN felt the overseas specialist paediatric education:

"..... developed in me a deeper sense of understanding of the issues that families face"

There were several comments about positive influences on behaviour such as working in a tertiary centre and about colleagues having a positive effect on professional practice for example: *"work colleagues [sic]"* and *"working as a team."*

"Being around other nurses and learning from them and seeing how they practice really is very influential [sic]."

One RN commented that *"information from education sessions may change my usual practices."*

There were also several comments regarding colleagues having a negative effect on practice:

"At times people disregard experience ..."

"Other staff members [sic] attitudes towards nursing ... interfere in your care"

"lack of encouragement/appreciation"

"Years of experience - it seems the longer that a nurse has been working, the less time they take to give personalised patient care."

This last comment was made by an RN who had recently completed a 12 month Graduate Nurse Program and seems to be contradictory to Coyne's (2007) report that more experienced/ senior nurses deliver family centred care more often. No explanation was given about the comment so the context is not clear, but it does not seem to imply the experienced nurses are more efficient. Glasper, Richardson and Whiting (2006) described how the perceived negative attitudes of some nurses may be detrimental to paediatric nursing. Glasper et al. (2006) was referring to the experiences of student nurses and how "poor supervision" or a poor experience may have a

negative experience which ultimately impacts upon attrition rates. Although this small scale study focussed on paediatric student nurses' experiences, children's nurses do need "... support from peers ..." (p. 25).

Negative peer attitudes are not the only factors which affect RNs' behaviour, environmental factors are prominent (Corlett & Twycross, 2006). Issues such as workload and policies may also be influential. Comments from the nurses regarding hospital policies include:

"... if the ward is busy there is not enough time to spend with parents"

"lack of support [from management]"

"paperwork" "shift work- often tired as night duty has had a negative impact on my practice"

"working in a busy ward with high dependency patients with a high staff ratio of junior staff".

"Poor leadership/managerial skills" "... change in managers can affect moral in general"

"lack of autonomy"

"lack proactive [sic] of health promotion within hospital"

"rushing so I don't do things [sic] as meticulously as I would if I had more time. Also if there is no clinical support or other people are too busy to help you and answer questions then that has a negative influence."

"Ideally during the admission process & throughout the nursing care of the child my goal would be to gain the confidence of the child & parent/carer by relating at a level appropriate to each of them & delivering high standard of care, thus allaying any fears. This level of care is often difficult [to] deliver & frustrating due to time restraints & patients called for theatre prior to admission commenced/ theatre orders changed and increasingly high workloads. It is so important to have a positive impact on that first meeting during the admission this lays the path for their stay in hospital."

"Staff numbers (particularly on Night Duty) are only considered on numbers of patients and not acuity, thus patient care/parent care may sometimes be compromised (in that I am unable to give time to address problems relating to either familial or psychological issues that should be addressed in order to provide holistic care)."

Workload seems to have a significant impact upon nursing practices but this is no different to many other areas both within and outside of the health industry. In addition, an RN made a comment regarding equipment failure within the hospital but again, this is probably no different to other areas of the workforce.

In the final comments section, which asked the RNs to make any other comment they felt was pertinent to their practice only four nurses responded. One was a SPN and the remaining three were NSPNs.

“always having the threat of legal issues if you make a mistake.”

“poor communication within the workplace.”

“Paediatric units within general hospitals need strong support from upper management who support family centred care and evidence based practice.”

The above comment may stem from a hospital policy observed by the researcher on several occasions during the data collection stage of the research. If the hospital was particularly busy then adults would be admitted to some of the side rooms in the paediatric ward. Co-locating children and adults on the same ward has been criticised by many organisations (RACP, AWCH, ACPCHN [now ACCYPN] & CHA, 2009). The standards of care for children/adolescents clearly state that the practice of co-locating compromises care of both children and adults. The standards do include a contingency where there are “unavoidable circumstances” to co-locating children and adults, such as outbreak of infections, but the standards stipulate that patient flow and bed occupancy be planned so that co-location does not happen as a result of this (RACP, AWCH, ACPCHN & CHA, 2009, Standard 2.2.5). However, the circumstances observed by the researcher were always about patient flow which resulted in adults occupying beds in paediatric areas.

The final comment below from an RN is definitive, effectively summarising many issues surrounding children being admitted to hospital (Glasper & Richardson, 2011; Hockenberry & Wilson, 2011; Kyle, 2008; London et al., 2007).

“I believe that it is essential to understand how an admission of a child not only impacts on the child and parent 'in that moment', but also how other issues for example, loss of parental role, altered body image, family dynamics (care of siblings and maintenance of family life for them), costs relating to admission - parking, food, loss of earnings, etc. can all become added burdens to the child/family and, in providing holistic family-centred care, need to be explored and assisted with where possible.”

The main purpose of the survey was to ascertain if the RNs’ perception was that their behaviour and practice were affected by the professional education they have received. The results of the survey demonstrate that education does affect behaviour and practices of RNs working in paediatrics. The comments of the RNs’ reveal that their behaviour is also affected by other factors. These include the response of children and families at the admission, the observed practises of their colleagues, and hospital policies and systems.

The influence of parents and children's reactions could be reduced if RNs adhere to the QMs during the admission procedure. The nurses would have a greater understanding that every admission is unique and children and their families need help to guide them through the admission procedure. This is because when children and their parents are in unfamiliar environments, such as a hospital ward, they are often scared (Coyne, et al., 2010; Feeg, 1989; Glasper & Richardson, 2011; Hockenberry & Wilson 2011; Shields, Pratt & Hunter, 2006). This understanding can best be gained through education.

Some of the RNs reported that hospital policies and procedures affect their behaviour during the admission procedure. These influences may be difficult for individual RNs to overcome. However, if the philosophy of the hospital is to adhere to the QMs, the procedures which have a negative influence on the RN's behaviour, may be reduced and the admission becomes more focussed on the child and family, rather than the hospital processes.

There are many issues which affect behaviour and practices. As stated in the literature, best practice in paediatric nursing can be achieved through education. Clearly from the responses of the RNs to the survey, education does have a significant influence on nursing care within paediatrics, although this varies depending on the individual quality measure used.

6.6.2 Nurse (RN) education

The RNs in this research who were SPNs, had undertaken their specialist education in various institutes including overseas education programs and hospital based, paediatric nurse education. Some of these programs comprised a large proportion of theory in areas such as child development and FCC. In Western Australia there is less emphasis on the theoretical components and more time is devoted to skills and procedures. The disparity of the specialist paediatric education the RNs had undertaken was not included in the analysis of the data because, during the recruitment of the sample, the length and type of specialist education was not collected by the researcher. This could have been an additional variable which may have altered the findings.

What may be an Ideal scenario in Australia is that the best facets of SPN education programs, which include both in-depth theory and skills be incorporated into an extensive curriculum. An adjunct could be to incorporate simulation into a SPN education program. Scenarios which

feature the QMs could be conducted and reviewed by students as part of an education program. Simulation could be extended to encompass other procedures such as a QM for venepuncture.

Regardless of the type of SPN education, education is clearly seen as an important factor in care delivery to children and their families by the RNs. More than 70% of the RNs reported that their behaviour was influenced by their RN education and over 90% of the SPNs felt their behaviour was influenced by their specialist education. As described, there are many things which influence RNs' behaviour, but the focus of the survey was to determine their perceptions regarding the influence education has on their care behaviour.

This thesis has investigated whether a link exists between specialist education in paediatric nursing and the quality of care delivered to children and their families. Since the publication of the Platt Report (HMSO, 1959) the inference has been that RNs working with children should be appropriately trained/ educated. In the U.K. this was a government policy directive which was also endorsed by the Commonwealth Government of Australia, but not as a policy. This resulted in specialist education being disregarded in favour of comprehensive nursing. Although specialist education was not the guiding principle, the national health policy for children and young people (Commonwealth Government of Australia, 1995) emphasised the need to develop a workforce with skills and knowledge (education) for people working with children and young people defined as being up to the age of 24).

There is some literature that advocates that RNs working with children should be specifically educated in paediatric care and treatment; otherwise the quality of care may be compromised (RACP, AWCH, ACPCHN & CHA, 2009). However, considering the ratio 1:2 of RNs with specialist education compared to nurses without specialist education in Western Australia, the joint standard by the RACP, AWCH, ACPCHN and CHA is not being met. It is not clear if this is due to difficulties in recruiting specialist nurses or difficulties in educating nurses who are currently working within paediatrics due to issues such as cost implications. Also, the researcher has witnessed RNs being discouraged from enrolling in specialist education by managers they "... may not have a job to come back to ..." (Personal Communication, 2008). In uncertain financial climates, it is less likely RNs will undertake further education if it will affect their financial situation. An ideal scenario would be that if NSPNs apply to undertake specialist education, they be paid to complete the course with the clinical areas being funded to backfill the nurses' absence. Once the course is completed the RN would return to their role and employment. This would require financial outlay from the state and territory governments but to

date this has not been forthcoming. Indeed on a national scale, if the level of investment is similar to the child health services within Western Australia, then further expenditure on improving paediatric nurse education is not likely to occur as this area has been underfunded for many years (Mayes, 2011). Mayes is emphatic when stating that “poor health policy is child neglect” (p. 21). The significant difference between child health nurses and paediatric nurses is that child health nurses are mandated to undertake additional formal education whereas a paediatric specialist qualification is optional for nurses within Australia (Curtin University of Technology, 2007). Despite this in-service education gap, the DoHWA (2006, p. 2) recognised the need for education for paediatrics and advertised “... that the nursing profession requires practitioners to act as role models and leaders ...”

Furthermore, the Nursing and Midwifery Board of Australia ([NMBA], 2012) directs that RNs should develop their professional practice according to the population’s needs, this being achieved through learning and professional development. Links between learning/ education and quality have been made by the NMBA and the Australian Council for Safety and Quality Health Care (2004). Thus, this research is timely as the link between quality care and education has been demonstrated and does have implications for practice.

6.7 Implications for paediatric nursing in Australia

For many years, the Commonwealth Government of Australia has deliberated the recommendations, from various reports, professional nursing organisations and non-government organisations, that RNs working in specialist areas, or working with specific populations should be appropriately trained and educated (ACCYPN, 2009; AWCH, RACP & CHA, 2009; Heartfield, 2006; NBWA, 2004; Heath, 2002; EQUIP, 1998; Department of Health WA, 1990). Despite this, specialist education for RNs working with children still remains an option for hospitals which provide paediatric services. Furthermore, in Australia, children are not classified as a specific population requiring specialist nurses. However, in 2006, the National Nursing and Nursing Education Taskforce (N³ET) described how RNs could become specialists through education and experience, citing paediatrics as a potential specialist area.

The Commonwealth Government of Australia recognises that children who need health care ideally should be cared for by nurses with specialist education and that education enables them to become specialists. In addition, the Government directs that high quality health care should be given to those who need it. An issue for the government is that the definition of quality is

blended with reducing in-patient stays and a reduction in adverse or sentinel events. Quality is not readily linked to the experience of users (patients/ clients and families) of health care. This research demonstrates the importance of including the nuclear family's experiences within a quality framework, showing why this link is so important within paediatric nursing.

The literature unequivocally states that the experiences of children and families may significantly impact upon their emotional wellbeing which can then affect their physical health. Based on the findings of this study, it is this researcher's view that the Commonwealth Government and state and territory governments need to be unambiguous in their stance and direct that children are a specific population requiring specialised health care. Furthermore, the findings of this study strongly indicate that high quality specialised health care can best be achieved through nurse education. This research found that RNs who have undertaken specific education in paediatric health care, in relation to their interpersonal interactions during the admission process, meet the QMs more frequently than RNs who have not undertaken specialist education. Moreover, RNs themselves recognise how education influences their care delivery.

The results of this research have significant implications for the Commonwealth Government of Australia and paediatric nursing at large. High quality care is a Commonwealth Government of Australia's goal (AHPRA, 2012) but specialist education leading to higher quality care is expensive and this has funding implications. Although expensive, a national education framework for paediatric nursing may help address recruitment and retention because a lack of specific education has been cited as a cause for nurses leaving the profession (Coakley, 1997; Smith & Long, 2002; Stuhlmiller, 2005).

6.7.1 Recommendations for further research

- Extend the scope of this research to other states and territories with a larger sample size to compare the results with those from Western Australia.
- Undertake further research, which takes into account the effects of RN personality traits to investigate why some of the nurses without specialist education meet the QMs as often as an SPN.

- Map current education programs offered to coordinate the development of a national approach to a nurse education program for RNs working with children.
- Develop minimum standards for clinical areas in relation to SPN patient ratio.
- Ensure paediatric nursing services are developed and managed by paediatric experts.
- Develop a numerical rating for degrees of feasibility in meeting the QMs as indicated in this research.

6.7.2 Disparity in meeting the individual QMs

Although the overall findings in this research indicate that the education level of RNs clearly influences quality, the individual QM results show that in several instances, no significant differences between the groups could be found. When the results were analysed by omitting the outlier for the individual QMs, in QM1, and parent-orientated QM6 and QM7, the results were significant. Also in parent inspired QM4, and child related QM5 and QM6, the $p =$ less than .10 which be posited as a trend toward significance (Bangalore et al., 2006; Rosner, 2011). Although the trend is evident, what is not clear from the results is why some of the NSPNs meet the QMs as often and in some cases more than the SPNs.

Possible reasons for this finding are:

- The RN's personality has some bearing on quality care;
- The level of SPN education is different; and
- The analysis and the sample size may have affected the significance.

In the Sections 6.6.3.and 6.7, factors which may account for the differences were discussed. Personality is a key feature in nursing. As described by Kelsey and McEwing (2008) it is important to have a kind demeanour when nursing children. It is also important to be considerate (see Section 6.4.7). If these personality traits influence whether RNs meet all the QMs, then further research may help to determine how this behaviour can be incorporated into an education program.

6.7.3 Recommendations for the Commonwealth Government of Australia, state and territory governments and professional bodies

1. Develop a strategic national policy for minimum standards of quality for paediatric nursing care and specifically for how nurses interact with children and their families.

This should be a national strategic policy adopting best practice and including all private facilities, as well as public services, where children receive care.

- This policy should be written in consultation with all sections of state and territory health departments where children and young people receive nursing services;
- Consultation should involve public and private clinical care units, and tertiary education providers; and
- The consultation needs to be completed within a specified timeframe in order for the policy to be developed and implemented.

The Commonwealth Government of Australia should incorporate in-patient paediatric care within the strategic policy for A Healthy Australia which aims to identify pre-school children with difficulties. The strategies developed for pre-school children include the Positive Parenting Program® and Best Beginnings. If this can be achieved for one section of children deemed vulnerable in Australian society, then policies need to be developed for children who need in-patient nursing care as they are often as vulnerable.

2. Build on previous recommendations to accomplish legislative and establishment changes within the national policy.

Incorporate previous recommendations from reports to develop a national policy for children and young people who require hospital care. The Commonwealth Government of Australia should:

- Legislate at what ages a child needs paediatric services and what age young people should be transferred to adult services. This legislation should be based upon international ages and stages of development and not include young people beyond high school (an upper limit of 18 years of age);
- Legislate that children and young people should not be cared for in areas or wards which are identified as adult;
- Legislate that adults should not be cared for in areas or wards which are identified as paediatric;
- Develop a rigorous national system to monitor where children receive care;

- Develop a national data set to capture incidences of in-patient care and where the care is delivered; and
- Establish national standards for ratios of SPNs to patients.

3. Develop a strategic national policy for minimum standards of quality education for paediatric nursing care.

National paediatric quality education should be developed in collaboration with tertiary hospitals, AHPRA, NMBA, professional organisations, non-government organisations and universities which offer a nursing curriculum and should include paediatric pathophysiology, growth and development and FCC. Based upon the education program a world class, registered paediatric nursing qualification should be offered at specified centres which work in collaboration with tertiary education. Prior to this:

- A national survey needs to be conducted to establish which establishments currently offer a paediatric course;
- A national survey needs to be conducted of all universities to establish what level of paediatric nursing is currently offered in the undergraduate and postgraduate curricula;
- Following the surveys, the stakeholders should develop and roll out a paediatric nursing curriculum within a maximum of five years which includes developmental ages and stages and FCC. It should include the outcomes of the framework for quality paediatric nursing care portrayed in Figure 3.1; and
- Priority should be given to RNs currently working within paediatrics, ideally without loss of employment for these nurses.

The recommendations from previous reviews of nurse education have been to maintain the comprehensive nursing qualification. In keeping with the recommendations, the paediatric nursing course should be offered as a postgraduate unit. This will ensure that RNs have the education and flexibility for working in adult areas should the service require, for example, in cases of mass casualties.

4. Provide adequate funding to develop the course and ensure hospitals can achieve the minimum national nurse to patient ratio. Therefore:

- Universities may require innovation funding to develop new courses; and
- Clinical areas need adequate funding to employ backfill staff cover while the RNs undertake the specialty course.

Universities will be encouraged to develop postgraduate paediatric nursing specialty courses; this may be through opportunities to seek innovation funding for program development.

5. Develop a national system to regulate the education and legislative changes

A system of evaluation and audit needs to be developed for the paediatric nursing curriculum.

This system:

- Should be undertaken by a panel of paediatric nursing experts;
- Should include benchmarking to ensure that innovative (best) practice is maintained and children and their families receive the highest possible quality care wherever they live; and
- Should be adequately funded so that interstate and territory auditing and evaluation can be conducted independently. This will facilitate independent expert feedback to programs in order to maintain high standards of education.

6. Paediatric nursing should be endorsed as specialist nurse practitioners by the Nursing and Midwifery Board of Australia

Discussions need to take place at accreditation and registration level with AHPRA and NMBA in respect to exploring the potential for a specific registration category for paediatrics on the nursing register. The SPNs will have met specified criteria as defined by the NMBA (ANMC, 2009) which ensure the RNs working within paediatrics “... improve and broaden their knowledge, expertise and competence ... in [the] relevant learning ...” (NMBA, 2010). As well as maintaining expertise, it will also enable a tracking system of who has undertaken specialist paediatric nurse education and enable members of the public to make a similar check in the same manner that any nurse’s registration status can be verified.

7. Provide funding to develop quality measures (QMs) relating to other procedures

Further quality measures should be developed to ensure best practice principles in paediatrics are maintained at all times. These should be developed for school age children and adolescents and incorporate cultural needs of children and their families.

- A mapping exercise should be undertaken to document the most common procedures. Following this, QMs can be developed for other procedures; and
- The QMs should be adapted for the admission documentation to ensure best practice principles are adhered to and high quality nursing care is always given to children and their families.

8. Evaluate hospital admission processes for children

Clinical areas need to:

- Evaluate the impact upon children and their families who are admitted to one area and have their post-operative care in another area such as surgical day procedure units;
- Evaluate if children and their families are more distressed by meeting new clinicians compared to those of the admission unit.
- Evaluate the impact of hospital processes upon the quality of care, for example, patient admission times, transfer times and administrative procedures preceding assessments; and
- Develop homogenous admission documentation which incorporates QMs.

9. Undertake further research to investigate the relationship between personality and behaviour when nursing children.

The results of this research indicate that factors other than specialist education affect the quality of care children and their families receive, for example, the RN's personality. Therefore, further research is needed to investigate the significance of this on RNs' caring behaviour and if personality can be incorporated in a specialist paediatric education program.

10. Implement interim measures until the education programs are developed.

Investigate how to utilise simulation of nurses meeting the QMs. With current technology, scenarios can be developed and distributed in real time to nurse education departments in clinical areas as a temporary measure to improve the quality of care children and their families receive.

6.8 Limitations of this study

This research used several methods to obtain data: a modified Delphi technique to achieve consensus on best practice; an observational video data collection; and an on-line survey. The limitations of these methods may reduce the robustness of the conclusions reached. The limitations are primarily due to time and costs of the research and most of them are addressed in the recommendations for future research. The researcher could have undertaken further analysis to investigate the differences between the RNs' behaviour and the type of education course they completed but this would have required a larger sample size for a more detailed analysis which was beyond the scope of this research.

1. This research analysed RNs' behaviour at two hospitals in Western Australia; paediatric services may be delivered differently in other states and territories; especially within private health care.
2. The sample size was 68. A larger sample is likely to have produced more conclusive results especially using ANCOVA (see Chapter Five, Section 5.2.5).
3. Equal numbers of SPNs and NSPNs were not compared although the analysis did account for this difference.
4. Although the analysis accounted for the difference in group size, the sample contained a much greater proportion of NSPNs than SPNs who had worked with children for less than five years. This could have created a bias in the results. A larger study which stratifies the sample would reduce this potential.
5. The study excluded school age children, using one to six year olds only. Young people were also excluded. School aged children and young people would benefit from different QMs more appropriate to their developmental ages and stages.
6. This study excluded children and their families where English was not their first language. Therefore, cultural differences were not accounted for in the research.
7. Although the admission process is an integral part of a child coming to hospital, many other procedures were performed but not observed.
8. The 24 QMs developed by the Delphi Panel were not all used within this research; if they had been, the results may have differed.
9. The SPN education program was not specified. For example, RNs educated and trained in the U.K. may have completed a direct entry course to paediatric nursing. This means the nurses have undertaken a general foundation year followed by two years of specialist education in paediatrics, including one year of theory and one year of practicum. In WA, there is no such course; upon completion of the comprehensive nurse education degree, an additional year is required which incorporates a two week study period before commencing one of two clinical placements. The year is interspaced with 11 study days.
10. Although more than 50% of the sample completed the survey, the results may have been more useful if all of the RNs testified to the importance of education.

6.9 Conclusions drawn

The conclusions drawn from this research are:

1. Education clearly affects RNs' behaviour when caring for children and their families as there was a statistically significant difference between the two groups in the meeting of the QMs ($p=0.009$). However, there are other factors which affect RNs' care behaviours.
2. Child-appropriate professional nursing behaviours cannot be solely attributed to education; other factors contribute to delivering a high quality of nursing care to children and their families as can be seen from the analysis. Nurse 56, who had undertaken specialist education, did not meet the QMs as often as other SPNs. NSPNs met some of the QMs as often as SPNs. These may be attributed to the RN's personality traits.
3. Age and experience may influence RNs' behaviour with regard to meeting the QMs (see Tables 5.31, 5.32 and 5.33) but when age and years of working in paediatrics are taken into account, there are still notable differences between SPNs and NSPNs meeting the QMs. Therefore the current system, which seems to assume that practical experience leads to a higher quality of care, is flawed.
4. RNs value education attesting that it influences their behaviour when nursing children and their families.

6.10 Contribution to knowledge

The results of this research have made the following distinct contribution to nursing care and education:

1. The QMs developed by consensus of the Delphi Panel are the first measures which examine the quality of interactions between children, their families and RNs. The QMs are based upon current nursing research and best practice and can be prioritised so that a meaningful admission tool can be developed.
2. It was demonstrated that paediatric nurse education does make a difference to nursing children and their families as SPNs were significantly more likely to meet the QMs than NSPNs. Thus, being an SPN is a significant predictor of meeting the QMs.
3. The research has highlighted the importance that RNs place upon education and the influence education has on nursing care behaviour.

Quality care is more often associated with quantifiable outcomes such as a reduction in in-patient days or fewer adverse or sentinel events. The actual experiences/ quality that children

and their families have in the health care arena are not included as quality measures. This research has challenged the assumption that the definition of quality is based upon outcomes and not upon interactions with health care professionals. The findings from this study are the first to show a demonstrable effect of the difference that specialist paediatric nurse education can make to the quality of care children and their families receive in hospital in Australia.

Defining the influence of specialist paediatric RN education has been discussed for many years; it has been a challenge to children's nursing in many countries. Questions have been raised as to the benefit of specialist education and whether or not children's RNs make a difference, especially in Australia where generalist nursing is the preferred model to specialist nursing. This has been based upon the assumption that areas such as paediatrics do not need specialist RNs as they do not make a difference to care; this research is a strong indication that speciality education does indeed make a difference to the caring behaviours of nurses in Australia.

The results of this research are a starting point for governments, professional bodies and health care providers to implement changes to the way that RNs who work with children in Australia, receive specialist education. Other specialty areas may also need similar research to determine the effect of education upon care delivery.

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Appendices

Please note, there is no Appendix 'I' to avoid confusion with numerals.

Appendix A

Quality markers for children ages one to five during the admission procedure.

The nurse should introduce themselves to the child and the carers within seconds of entering the room/ area. Introducing themselves to the carer first may put the child more at ease but this is not always the case. Markers to look for are:

The nurse should say hello to the carers and introduce themselves by name.

If the child is verbal and at a developmental stage where they would understand, the nurse should engage the child in social conversation which may involve getting to the child's eye level to greet the child and introduce themselves by name to the child. If the child is verbal, general conversation would be initiated such as do you go to kindergarten or what is the name of the toy you are holding etc...

If the toddler is pre-verbal, this social engagement may include making eye contact and saying simple repetitive phrases to the toddler. It may also include the nurse making welcoming facial gestures.

The nurse should clarify if the child has a preferred name. The nurse should address the child by name. The nurse should clarify how the carers wish to be addressed, e.g., Mrs Mould, Jon etc ...

The nurse should use age appropriate language and concepts which may include cultural needs. e.g., special dietary needs, showing where the prayer room or chapel is...

The nurse should fully explain aspects of the admission procedure to the carer so if needed they can explain to the child, e.g., the need for the child to stand/ lie in the scales to weigh; if specific physical parameters need to be recorded e.g., blood pressure. This should also include an explanation how the nurses function on the ward. e.g., "I am your named nurse".

When providing the explanation to the child (if at appropriate developmental stage) and the carer, the nurse should use age appropriate language and concepts and considering any cultural needs the family may have.

The nurse should assess if the child (if at appropriate developmental stage) and carers have understood the explanations by reframing their responses.

The nurse should establish informed consent from the carers to conduct a physical assessment such as obtaining base line observations.

The nurse should explain how the nursing staff can be contacted if the family need assistance.

The nurse should establish if the child has been in hospital before. If the child has been in hospital before, the nurse should establish if the child is likely to remember this.

The nurse should ask the child (if at appropriate developmental stage) what they know about coming to the hospital.

Does the nurse acknowledge the child's and/ or the carers' body language? For example, if the child or parent appears frightened or extremely anxious or if a carer appears hostile/ angry does the nurse acknowledge this?

If the child is at an appropriate developmental stage, after social conversation has been established, the nurse should intentionally endeavour to connect with the child. This may be demonstrated by: the nurse explaining to the child what the nurse is going to do using words and phrases the child is able to understand i.e. appropriate for the child's developmental age. For example, if the child is verbal and able to understand, then telling the child a thermometer is going to touch their ear and it will make a beeping sound. If the child requires any oral medication, tell the child it may taste "a bit funny".

The nurse should discover if the child has special names for certain things such as wanting the toilet or food etc ... e.g., tiddle for urination, or yum yum for something to eat. This may be more evident in older infants and toddlers and less so in four to five year olds.

If the child appears bored or restless, the nurse should recognise this and offer to provide appropriate developmental activities. e.g., the child may want to read or play a game whilst the documentation is being completed.

The nurse should help the child and carers through the admission procedure and demonstrate sensitivity and not appearing to rush the child by showing patience and tolerance ... for example the child is actively involved in the procedure. The child is allowed to ask questions which the nurse answers, the carers are encouraged to ask questions.

If the child appears to be frightened during the procedures, the nurse should use a doll/ teddy bear/ or toy that the child is familiar with may help the child feel more at ease with parts the admission procedure. For example, showing a child how "routine vital signs might be recorded" on a doll or teddy if a child appears frightened of any equipment.

Alternatively, the nurse would involve the carers in procedures. e.g., the nurse would ask the carer if they can demonstrate procedures on them such as placing a stethoscope on a carers leg or arm before placing it on the child. The nurses would use their assessment skills to determine if this is appropriate

The nurse should be sensitive to cues indicating child's reluctance/ apprehension to engage with procedure. For example include strategies to deal with a child reluctant to engage in any part of the admission procedure, e.g., coaxing and positive reinforcement.

The nurse should assess if the child is able to understand any of the procedures.

The child is orientated to the ward. For example, show the child around the ward and areas are pointed out such as the toilets, they are asked if they want to see the play area/ room or where toys and books are kept. If there are any particular rules in the ward such as the TVs are turned off after supper they will be told them etc ...,

The carers are orientated to the ward. For example the carers are shown around the ward and areas such as carers' toilets and bathroom facilities. Or if they are told if there are any particular rules such as TV off after supper, or no hot drinks out of the parents room or only immediate family after a certain time.

If the child is at an appropriate developmental stage the nurse may introduce the child to other children on the ward unless the child or the carer demonstrates this is not what they want. The nurse would observe for body language or facial expressions from the carer or child if this is not verbalized.

The nurse should introduce the child (in an appropriate developmental manner) to other members of the ward team if they are in the vicinity. This may include showing the child and carers photograph boards of the ward team.

In each step of the procedure were the child needs to do something (for example stand on the scales) the nurse should use developmentally appropriate positive feedback when the child has cooperated.

If the child is verbal, the nurse should ask the child if they have any questions.

The nurse should ask the carers if they have any questions. If this is the child's first admission (or the first for this problem etc...) the nurse may use their skills to anticipate anxieties and concerns any hospital admission may evoke and prompt the carer to ask questions.

The nurse should provide written information with units contact details, visiting hours, transport and parking details. The nurse should provide a brief overview of planned care and where possible length of stay
The nurse should establish/ negotiate with the carers the level of participation in care giving. For example bathing the child etc ...

Please add any other comments in the free text box below

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Appendix B

Check list for the Admission Procedure-

The priorities of the activities will ultimately depend on the severity of the child's condition. The markers have been numbered in an attempt to establish some order of priority for a non-emergency admission.

The examples of what the nurses may say are not prescriptive but are a reflection of the nurses' skills in engaging/ attempting to engage with a child and or the caregiver(s). If the child or caregiver(s) will not engage, the quality marker is achieved if the nurse has attempted to engage.

Quality Marker	Child achieved	Carer achieved
1. The nurse should introduce herself/ himself to the child and the caregiver(s) by name usually within 10 seconds of entering the room/ area. This may be affected by the type of admission for example, in an emergency.		
2. The nurse should acknowledge the caregiver(s) body language within one minute. For example, if the caregiver(s) appear frightened or extremely anxious or appear hostile/ angry does the nurse acknowledge this?		
3. If the child can talk, the nurse should endeavour to engage the child in social conversation which may involve getting to the child's eye level to greet the child. If the child is a preverbal toddler is this social engagement may include making eye contact and saying simple repetitive phrases.		
4. The nurse should clarify if the child has a preferred name. The nurse should address the child by this name. The nurse should clarify how the caregiver(s) wish to be addressed.		
5. The nurse should endeavour to discover if the child has been in hospital before. If the child has been in hospital before, the nurse should endeavour to establish if the child is likely to remember being in hospital. If the child can talk the nurse should ask the child what they know about coming to the hospital. For example, if it is a planned/ booked admission, written information may have been sent and the nurse might ask the child if they know what a thermometer or a blood pressure machine/ device does.		
6. The nurse should fully explain aspects of the admission procedure to the caregiver(s) so if needed they can explain to the child. For example, the need for the child to stand or lie in the scales to weigh the child. This should also include an explanation how the nurses function on the ward – e.g., explaining what a named nurse is and saying "I am your named nurse".		
7. The nurse should endeavour to establish/ negotiate with the caregiver(s) their level of participation in care giving.		
8. When providing the explanation to the child and the caregiver(s), the nurse should use age appropriate language and or concepts and use culturally appropriate language. The nurse should assess if the child and caregiver(s) have understood the explanations by reframing their responses.		
9. If the child can talk the nurse should intentionally endeavour to connect with the child. This may be demonstrated by the nurse explaining to the child what the nurse is going to do using words and phrases the child is able to understand i.e. appropriate for the child's developmental age. For example, telling the child a thermometer is going to touch their ear and it will make a beeping sound or oral medications may taste "a bit yucky".		
10. The nurse should endeavour to help the child through the admission procedure and demonstrate sensitivity and use strategies to deal with a child reluctant to engage in any part of the admission procedure and not appear to rush the child by showing patience and tolerance. For example coaxing and positive reinforcement and the child is actively involved in the procedure. The child and caregiver(s) are encouraged to ask questions.		

11. The nurse should discover if the child has special names for certain things such as wanting the toilet or food etc... For example "tiddle" for urination, or "yum yum" for something to eat.		
12. The nurse should establish informed consent from the caregiver(s) to conduct a physical assessment. The nurse should tell the child what they are doing and why.		
13. The nurse would involve the caregiver(s) in procedures. If the child appears to be frightened or reluctant during the procedures, the nurse should be sensitive to cues. The nurse should use a toy such as a doll or teddy bear the child is familiar with in an attempt to help the child feel more at ease with parts the admission procedure. For example, the nurse would ask the caregiver(s) if they can demonstrate temperature, pulse and blood pressure recordings on them or on a familiar toy before moving to the child.		
14. If the child appears bored or restless, the nurse should recognise this and offer to provide appropriate developmental activities. For example, the child may want to read or play a game whilst the documentation is being completed.		
15. The child is orientated to the ward. For example, show the child is shown around the ward and areas are pointed out such as the toilets, they are asked if they want to see the play area/ room or where toys and books are kept. If there are any particular rules in the ward such as the TVs are turned off after supper they will be told them etc...,		
16. The caregiver(s) are orientated to the ward. For example the caregiver(s) are shown around the ward and areas such as parent's/ caregiver's toilet and bathroom facilities. Or if they are told if there are any particular rules such as TV off after supper, or no hot drinks out of the parent's/ caregiver's room or only immediate family after a certain time.		
17. In each step of the procedure were the child needs to do something (for example stand on the scales) the nurse should use positive feedback when the child has cooperated. For example the nurse thanks an older child and for an infant or young toddler, the nurse smiles and gestures how pleased they are with the child.		
18. If the child can talk the nurse should ask the child if they have any questions.		
19. The nurse should ask the caregiver(s) if they have any questions. For example, if this is the child's first admission the nurse may use their skills to anticipate anxieties and concerns any hospital admission may evoke and prompt the caregiver(s) to ask questions.		
20. The nurse may introduce the child and caregiver(s) to other children/ families on the ward unless the child or the caregiver(s) demonstrate this is not what they want. The nurse would observe for body language or facial expressions from the caregiver(s) or child if this is not verbalised.		
21. The nurse should introduce the child (in an appropriate developmental manner) and caregiver(s) to other members of the ward team if they are in the vicinity.		
22. The nurse should explain how the nursing staff can be contacted if the family need assistance.		
23. The nurse should provide written information with the units contact details, visiting hours, transport and parking details.		
24. If known, the nurse should provide a brief overview of planned care and where possible length of stay to the caregiver(s).		

Appendix C

Key P = P level

PM = Paediatric Marker

QM \ Reviewer (R)	R 1	R 2	R 3	R 4	R 5	R 6	R 7	R 8	R 9	R 10	R 11	R 12	R 13	R 14	R 15
1. The nurse should introduce herself/ himself to the child and the caregiver(s) by name usually within 10 seconds of entering the room/ area. This may be affected by the type of admission for example, in an emergency.	P1		P1	P1		P1	P1						P 1		P4
2. The nurse should acknowledge the caregiver(s) body language within one minute.		P1	P7			P2						P	P 2		P7
3. If the child can talk, the nurse should endeavour to engage the child in social conversation which may involve getting to the child's eye level to greet the child. If the child is a preverbal toddler is this social engagement may include making eye contact and saying simple repetitive phrases.	Pr2	P2	P3	P3	P1	P9	P3					P	P 3	PM	P5
4. The nurse should clarify if the child has a preferred name. The nurse should address the child by this name. The nurse should clarify how the caregiver(s) wish to be addressed.			P4	P2	P3								P 4		
5. The nurse should endeavour to discover if the child has been in hospital before. If the child has been in hospital before, the nurse should endeavour to establish if the child is likely to remember being in hospital. If the child can talk the nurse should ask the child what they know about coming to the hospital. For example, if it is a planned/ booked admission, written information may have been sent and the nurse might ask the child if they know what a thermometer or a blood pressure machine/ device does.	P3		PM	P4			P2					P	P 5	PM	P6
6. The nurse should fully explain aspects of the admission procedure to the caregiver(s) so if needed they can explain to the child.		P 6											P 6		
7. The nurse should endeavour to establish/ negotiate with the caregiver(s) their level of participation in care giving.	P 4 PM		P 2 PM	P9	P3		P5						P 7		P8
8. When providing the explanation to the child and the caregiver(s), the nurse should use age appropriate language and or concepts and use culturally appropriate language. The nurse should assess if the child and caregiver(s) have understood the explanations by reframing their responses.	P5 PM	P4	P8	PM	P4 PM	P5	P4					P	P 8		P1 PM
9. If the child can talk the nurse should intentionally endeavour to connect with the child. This may be demonstrated by the nurse explaining to the child what the nurse is going to do using words and phrases the child is able to understand i.e. appropriate for the child's developmental age.	P 5	P3	P2		P5 PM	P4						P	P 9	P diffic ult to asse ss	P3 PM

10. The nurse should endeavour to help the child through the admission procedure and demonstrate sensitivity and use strategies to deal with a child reluctant to engage in any part of the admission procedure and not appear to rush the child by showing patience and tolerance.	P 6	P5	*	P8	P6	P6	P6							P	difficult to assess	P2
11. The nurse should discover if the child has special names for certain things such as wanting the toilet or food etc...			PM		P7		P7									P9
12. The nurse should establish informed consent from the caregiver(s) to conduct a physical assessment. The nurse should tell the child what they are doing and why.	P7		P6	P6	P8	P3	P8							P	PM	
13. The nurse would involve the caregiver(s) in procedures. If the child appears to be frightened or reluctant during the procedures, the nurse should be sensitive to cues. The nurse should use a toy such as a doll or teddy bear the child is familiar with in an attempt to help the child feel more at ease with parts the admission procedure.		P7	PM	P7	PM	PM	P7							P	PM	P1
14. If the child appears bored or restless, the nurse should recognise this and offer to provide appropriate developmental activities. For example, the child may want to read or play a game whilst the documentation is being completed.	P 8	PM			P9	PM	PM							P	PM	
15. The child is orientated to the ward. For example, show the child is shown around the ward and areas are pointed out such as the toilets, they are asked if they want to see the play area/ room or where toys and books are kept. If there are any particular rules in the ward such as the TVs are turned off after supper they will be told them etc ...,	P 9															
16. The caregiver(s) are orientated to the ward. For example the caregiver(s) are shown around the ward and areas such as parent's/ caregiver's toilet and bathroom facilities. Or if they are told if there are any particular rules such as TV off after supper, or no hot drinks out of the parent's/ caregiver's room or only immediate family after a certain time.	P 10															P10
17. In each step of the procedure were the child needs to do something (for example stand on the scales) the nurse should use positive feedback when the child has cooperated.		P8	PM	P10		P8	P1							P	PM	
18. If the child can talk the nurse should ask the child if they have any questions.		P9	P5		P10		P1						P			
19. The nurse should ask the caregiver(s) if they have any questions.		P10				PM	P9						P			
20. The nurse may introduce the child and caregiver(s) to other children/ families on the ward unless the child or the caregiver(s) demonstrate this is not what they want. The nurse would observe for body language or facial expressions from the caregiver(s) or child if this is not verbalised.			PM											P	difficult to assess	

21. The nurse should introduce the child (in an appropriate developmental manner) and caregiver(s) to other members of the ward team if they are in the vicinity.			PM P9												
22. The nurse should explain how the nursing staff can be contacted if the family need assistance.															
23. The nurse should provide written information with the units contact details, visiting hours, transport and parking details.															
24. If known, the nurse should provide a brief overview of planned care and where possible length of stay to the caregiver(s).											P				

Appendix D

Scoring system used to identify seven markers

<p>Scale: Scores of P1=10, P2=9, P3=8, P4=7, P5=6, P6=5, P7=4, P8=3, P9=2, P10=1</p> <p>Paed marker = 20</p> <p>Based on the scoring system reviewers 12 and 14 used for the IV quality markers, P= Paed marker (but were P has been scored as a P + marker, only 20 will be assigned to that marker – not P+ Paed marker)</p>		
Scores	Total score for QM	Priority of QM
Marker 1 = (6x10)+ (1x7)	67	8
Marker 2 = (1x10)+(2x9)+(1x3)+(1x20)+(1x4)	55	9
Marker 3= (1x10)+ (2x9) +(4x8)+(1x2)+1x20)+(1x6)	88	6
Marker 4= (1x9)+(1x8)+(2x7)	31	13
Marker 5= (1x9)+(1x8)+(1x7)+(1x6)+(2x20)+(1x20)+(1x5)	95	5
Marker 6= (2x5)	10	17
Marker7=(1x9)+(1x8)+(1x7)+(1x6)+(1x4)+(1x2)+(2x20)+(1x3)	79	7
Marker 8= (3x7)+(5x6)+(2x3)+(1x20)+(4x20)	157	1
Marker 9= (1x9)+(1x8)+(1x7)+(2x6)+(1x2)+(2x20)+(2x20)	118	4
Marker10=(1x6)+(4x5)+(1x3)+(2x1)+(2x20)+(2x20)+(1x9)	120	3
Marker11=(2x4)+(1x20)+(1x20)+(1x2)	50	10
Marker12=(8x1)+(2x5)+(1x4)+(2x3)+(1x20)	48	11
Marker13=(3x4)+(4x20)+(3x20)	152	2
Marker14=(1x3)+(1x2)+(2x20)	45	12
Marker15=(1x2)	2	18
Marker16=(1x2)	2	18
Marker17=(2x3)+(2x1)+(1x20)+(1x20)	48	10
Marker18=(1x6)+(1x2)+(2x1)+(1x20)	30	14
Marker19=(1x2)+(1x1)+(1x20)+(1x20)	43	13
Marker20=(2x20)+(1x20)	60	8
Marker21=(1x2)+(1x20)	22	15
Marker22	0	20
Marker23	0	20
Marker24=(1x20)	20	16

Appendix E

Parental letter

Jon Mould (Senior Lecturer)
School of Nursing, Midwifery and
Postgraduate Medicine
Building 21, Edith Cowan University
270 Joondalup Drive, Joondalup, 6027
0863043480 , mob. 0400798703

Dear parent/ carer

Thank you for taking the time to consider this correspondence. I am undertaking some research into paediatric nurse education and policy development for my Doctor of Philosophy at Edith Cowan University. This research has been approved by the Ethics Committees ***** and Edith Cowan University.

I am a registered children's nurse and I have worked as children's nurse for the last 20 years. I now lecture in children's nursing. I have three children of my own and three grand children.

I am asking for your permission to observe the nurse during the admission procedure. The observation will be video recorded. Video allows me to get the most information when analysing the procedures. Please note, all identify markers will be removed. This would mean faces would be blanked out of the video and if names are used during the procedure, they will be removed from the recording.

The admission procedure is the commonest event to happen to children when they come to hospital which is why I am asking to observe it. I must stress, **you are under no obligation** to allow me to watch and if you refuse, this will in no way affect your child's treatment.

No one else working at the hospital will be allowed to see the researcher's observations or the individual procedures. They will be seen only by the research team who do not work at the hospital. They will be stored for five years in a locked box in a locked filing cabinet in a locked room and then destroyed.

The results of this research may improve nurse education and training at a national level for paediatric nursing. It is hoped that some of the findings of the research will highlight children's nursing care in WA.

If at any time you have any questions, please do not hesitate to contact me at the above address or telephone number. Thank you for considering being part of this research. If you

agree to allow me to observe the procedure, then would you be kind enough to sign the consent form attached.

If you would like any feedback on the research, my contact numbers are above.

Yours faithfully
Jonathan Mould

If you have any concerns or complaints regarding this study, you can contact the Director of Medical Services ***** Your concerns will be drawn to the attention of the Ethics Committee who is monitoring the study.

Appendix F

FORM OF CONSENT (For Parent/ Guardian)

PLEASE NOTE THAT PARTICIPATION IN RESEARCH STUDIES IS VOLUNTARY AND SUBJECTS CAN WITHDRAW AT ANY TIME WITH NO IMPACT ON CURRENT OR FUTURE CARE.

I.....

Given Names

Surname

I have read and understood the information given to me explaining the study entitled.

An investigation of the effect of paediatric nurse education and quality of children's nursing care in Western Australia.

Any questions I have asked have been answered to my satisfaction.

I agree to allow

.....

(full name of participant and relationship of participant to signatory) to participate in the study.

I understand my child may withdraw from the study at any stage and withdrawal will not interfere with routine care.

I agree that research data gathered from the results of this study may be published, provided that names are not used.

Dated day of 20

Child's Signature
(Where appropriate)

Parent or Guardian's Signature

.....

I,**Jonathan Mark Mould**..... have explained the above to the
(Investigator's full name)

signatories who stated that he/ she understood the same.

Signature

Appendix G

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Dear Nurse

I am undertaking some research into paediatric nurse education and policy development. I lecture in paediatric nursing in the School of Nursing, Midwifery and Postgraduate Medicine at Edith Cowan University and I am undertaking this research as part of my PhD.

I am grateful to **** for permitting me to undertake this important research because all governments and health care systems are eager to ensure a focus on safe and high quality patient care and this entails a broad systems improvement approach including the higher education sector.

I am seeking Registered Nurses who have been qualified for more than one year to be part of the research. The research will be conducted in several parts:

Part one involves a research assistant asking nurse volunteers to complete a short questionnaire giving details of their level of education and training background. Individual information will be coded so it will be anonymised.

Part two involves nurses giving their permission to be observed and video recorded several times over a period of weeks during the admission procedure. This is not being done to assess you in any way; it is to observe the techniques and processes different nurses' use. Usually, after the initial stress of the camera, people forget about the video equipment quite quickly. Please note if you find this stressful, you are not bound by any legal agreement and you can withdraw from the research at any time.

The observation is **not** to assess your individual performance. The observation is to assess if paediatric nurse education may influence the way children are nursed in hospital. All identifying details will be removed both from the child and the family. Names will be removed from the nurse but the nurses' face will be identifiable because being able to see the nurses' expressions

and features during the procedures may be important. No one working at the hospital will be allowed to see the researcher's observations or the individual results. The only person to review the data, other than the researcher will be an independent psychologist. The purpose behind these independent professionals seeing the data is to help ensure the results are valid and reliable. The data will be stored in a locked box in a locked filing cabinet in a locked room for five years, and then it will be destroyed.

Even though no names, dates or times will be recorded, in the unlikely event something adverse occurs, a persistent person could possibly identify the specific procedure. This would likely occur if there was a medico-legal case brought about by a family. In this instance, the recordings could be used as part of their case. In the event of a subpoena, the video recordings will be provided by the researcher to a Court of Law. This scenario is unlikely but it is important you are aware of the possibility.

The results of this research may improve nurse education and training at a national level for paediatric nursing.

Other potential benefits for you include: listing your participation in the research in your portfolio for the Nurses and Midwives Board of Western Australia; gaining experience in an applied research study; gaining experience in the research/ policy/ education cycle (for example, after the study it is possible that recommendations will be made in respect to education and training, including resource development).

I appreciate you considering this and if you have any questions or concerns, I can be contacted at the above address or telephone number. If you are able to take part in this research, please complete the attached slip and consent form and place it in the envelope.

Thank you for your time.

Yours faithfully

Jon Mould

I am interested in being part of the above research and have completed the enclosed consent form

Name.....

Contact details.....

.....

.....

If you would like any feedback on the outcome of the research, please contact Jon Mould on the above numbers.

If you have any concerns or complaints regarding this study, you can contact the Director of Medical Services at *****. Your concerns will be drawn to the attention of the Ethics Committee who is monitoring the study.

Appendix H

<p style="text-align: center;">FORM OF CONSENT (For Nursing and Medical Staff)</p>
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PLEASE NOTE THAT PARTICIPATION IN RESEARCH STUDIES IS VOLUNTARY AND SUBJECTS CAN WITHDRAW AT ANY TIME WITH NO IMPACT ON CURRENT OR FUTURE CARE.

I have read the and understood
the
(Given Names) (Surname)

information explaining the study entitled

An investigation of the effect of paediatric nurse education and quality of children's nursing care in Western Australia.

Any questions I have asked have been answered to my satisfaction.

I understand I may withdraw from the study at any stage and withdrawal will not interfere with routine care.

I agree that research data gathered from the results of this study may be published, provided that names are not used.

Dated day of 20

Signature

I, **Jonathan Mark Mould** have explained the above to the signatory who stated that he/ she understood the same.

Signature

Appendix J

What is your current level of nurse education? – ***please tick the appropriate response[s]***

NSPN	SPN
RN CN	Postgraduate Paediatric Nursing Certificate Paediatric nursing qualification obtained overseas e.g., RSCN Or any Post grad or Post reg Paediatric training

Other education or training undertaken

Your age		
Year of initial registration		
Length of time working in paediatric nursing		
Have you had any career breaks? (please tick which appropriate response)	Yes	No

If so, please state the length of the break from paediatric nursing?

Appendix K

Dear Nurse,

The purpose of this brief survey is designed to help me understand what you think influences your interactions with children and their families. This is an important final step of the research as it will help me further analyse the results of the video observations.

About the participant group You are one of a group of 78 nurses who volunteered to help me conduct this research across two hospital sites with an assorted level of experience in working with children. I was able to video most of you twice but if those of you whom I only videoed once would complete the survey, this would be extremely helpful.

About the survey and data management

This project adheres to ECU's policies relating to data collection from human subjects, and has been approved by the ECU Human Research Ethics Committee and the hospital ethics committees. User data and records will be held in a secure database, accessible only to the researcher. Stored data will be held with the videos securely for a period of 5 years.

In keeping with Australian Federal Privacy Legislation, the identity of individuals involved in the research will be held in the strictest of confidence, including email addresses and/ or any contact details. Results reported in any aggregated 'findings' will not be associated with the identity of any one individual. For questions or concerns relating to this study please contact Professor Cobie Rudd at 6304 2422 or cobie.rudd@ecu.edu.au or Assoc Professor Anne Wilkinson at 6304 3540 or anne.wilkinson@ecu.edu.au

If you agree to the above, please proceed to answer the questions below.

Kind regards

Jon Mould

Appendix L

1. Please enter your name - NB this is confidential and only Jon Mould will see the survey

I am interested in learning about what influences your day to day nursing practice in paediatrics.

To what extent do the following factors influence your paediatric care delivery? Please indicate the degree of influence where 0= not at all and 10 = great influence.

1. A particular nursing mentor you have worked with

- ☐ ☐ ☐ ☒ 10 (great influence)
☐ ☐ ☐ ☐ 0 (not at all)
☐ ☐ ☐ ☐ 1
☐ ☐ ☐ ☐ 2
☐ ☐ ☐ ☐ 3
☐ ☐ ☐ ☐ 4
☐ ☐ ☐ ☐ 5 (neutral)
☐ ☐ ☐ ☐ 6
☐ ☐ ☐ ☐ 7
☐ ☐ ☐ ☐ 8
☐ ☐ ☐ ☐ 9
☐ ☐ ☐ ☐ 10 (great influence)

2. A negative reaction of a child to the hospital experience

- ☐ ☐ ☐ ☒ 10 (great influence)
☐ ☐ ☐ ☐ 0 (not at all)
☐ ☐ ☐ ☐ 1
☐ ☐ ☐ ☐ 2
☐ ☐ ☐ ☐ 3
☐ ☐ ☐ ☐ 4
☐ ☐ ☐ ☐ 5 (neutral)
☐ ☐ ☐ ☐ 6
☐ ☐ ☐ ☐ 7
☐ ☐ ☐ ☐ 8
☐ ☐ ☐ ☐ 9
☐ ☐ ☐ ☐ 10 (great influence)

3. A negative reaction of parents to the hospital experience

- ☐ ☐ ☐ ☐ 0 (not at all)
☐ ☐ ☐ ☐ 1
☐ ☐ ☐ ☐ 2
☐ ☐ ☐ ☐ 3
☐ ☐ ☐ ☐ 4
☐ ☐ ☐ ☐ 5 (neutral)
☐ ☐ ☐ ☐ 6
☐ ☐ ☐ ☐ 7
☐ ☐ ☐ ☐ 8
☐ ☐ ☐ ☐ 9
☐ ☐ ☐ ☐ 10 (great influence)

4. Colleagues on the ward

- ☐ ☐ ☐ ☒ 10 (great influence)
☐ ☐ ☐ ☐ 0 (not at all)
☐ ☐ ☐ ☐ 1
☐ ☐ ☐ ☐ 2
☐ ☐ ☐ ☐ 3
☐ ☐ ☐ ☐ 4
☐ ☐ ☐ ☐ 5 (neutral)
☐ ☐ ☐ ☐ 6
☐ ☐ ☐ ☐ 7
☐ ☐ ☐ ☐ 8
☐ ☐ ☐ ☐ 9
☐ ☐ ☐ ☐ 10 (great influence)

5. Hospital policies for example admission forms, operating theatre packs etc

- ☐ ☐ ☐ ☒ 0 (not at all)
☐ ☐ ☐ ☒ 1
☐ ☐ ☐ ☒ 2
☐ ☐ ☐ ☒ 3
☐ ☐ ☐ ☒ 4
☐ ☐ ☐ ☒ 5 (neutral)
☐ ☐ ☐ ☒ 6
☐ ☐ ☐ ☒ 7
☐ ☐ ☐ ☒ 8
☐ ☐ ☐ ☒ 9
☐ ☐ ☐ ☒ 10 (great influence)

6. Personal experiences e.g., being in hospital as a child or a family member in hospital as a child

- ☐ ☐ ☐ ☒ 0 (not at all)
☐ ☐ ☐ ☒ 1
☐ ☐ ☐ ☒ 2
☐ ☐ ☐ ☒ 3
☐ ☐ ☐ ☒ 4
☐ ☐ ☐ ☒ 5 (neutral)
☐ ☐ ☐ ☒ 6
☐ ☐ ☐ ☒ 7
☐ ☐ ☐ ☒ 8
☐ ☐ ☐ ☒ 9
☐ ☐ ☐ ☒ 10 (great influence)

7. Your initial general/ comprehensive nursing education. If you have not completed a general nursing course, leave blank

- ☐ ☐ ☐ ☒ 0 (not at all)
☐ ☐ ☐ ☒ 1
☐ ☐ ☐ ☒ 2
☐ ☐ ☐ ☒ 3
☐ ☐ ☐ ☒ 4
☐ ☐ ☐ ☒ 5 (neutral)
☐ ☐ ☐ ☒ 6
☐ ☐ ☐ ☒ 7
☐ ☐ ☐ ☒ 8
☐ ☐ ☐ ☒ 9
☐ ☐ ☐ ☒ 10 (great influence)

8. If you have a specific paediatric nursing qualification please tick the yes box, if not please tick the 'no' box

- ☐ ☐ ☐ ☒ yes
☐ ☐ ☐ ☒ no

1. To what extent does your specialist paediatric nurse education influence your professional practice?

- ☐ ☐ ☐ ☒ 0 (not at all)
☐ ☐ ☐ ☒ 1
☐ ☐ ☐ ☒ 2
☐ ☐ ☐ ☒ 3
☐ ☐ ☐ ☒ 4
☐ ☐ ☐ ☒ 5 (neutral)
☐ ☐ ☐ ☒ 6
☐ ☐ ☐ ☒ 7
☐ ☐ ☐ ☒ 8
☐ ☐ ☐ ☒ 9
☐ ☐ ☐ ☒ 10 (great influence)

1. In the box below, would you please add any other factors which you think influence your paediatric nursing practice such as another area you have worked in, other people not mentioned above with whom you have worked with etc...

2. In the box below, would please identify any factors which may have had a negative impact on your nursing practice, such as workload issues, etc...

3. Anything else you think we should know about the things that may influence your practice that has not been asked about in this survey?

Thank you so much for taking the time to complete this survey

Appendix M

Example of an admission for

ADMISSION AND DISCHARGE SHEET	Med Rec. No: Surname: Forename: Gender: D.O.B.						
GENERAL ADMISSION							
Nurse assessing Medical history / diagnosis Reason for admission							
WARD ORIENTATION							
Nurse Assessing <input type="checkbox"/> Parent Facility <input type="checkbox"/> Ward Safety <input type="checkbox"/> Booklet <input type="checkbox"/>							
FAMILY ASSESSMENT							
Family composition Family participation in care Religious / cultural requirements Language other than English Allergies (drugs / food / environment) Reaction							
IMMUNISATION							
Tick the vaccines administered to date, additional immunisations on bottom line. Only notify Australian Childhood Immunisation Register (ACIR) vaccines given up to and including 4 years.							
Birth	2 months	4 months	6 months	12 months	18 months	4 years	Year 7
Paed HapB	7vPCV	7vPCV	7vPCV	MMR		MMR	Adult HepB
	DTPa-IPV HepB-Hib	DTPa-IPV HepB-Hib	DTPa-IPV HepB-Hib	PadvaxHib		DTPa-IPV	Adult HepB
				MenCCV			dTpa
					VZV		VZV
Indigenous Specific	PedvaxHib	PedvaxHib			23vPPV		
				HepA	HepA		
Additional							
PHYSICAL ASSESSMENT							
Skin integrity Cardiovascular history Chest/respiratory history Neurological status Ear / nose / throat / mouth Current medications							

ADMISSION AND DISCHARGE SHEET	Med Rec. No: Surname: Forename: Gender: D.O.B.
RECENT HEALTH STATUS (Including recent exposure to infectious diseases)	
DEVELOPMENTAL ASSESSMENT Special Needs Care Plan Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> (includes milestones, social interaction, school, physical activities)	
COMMUNICATION SKILLS Verbal <input type="checkbox"/> Signs <input type="checkbox"/> Makaton <input type="checkbox"/> Gestures <input type="checkbox"/> Compic <input type="checkbox"/> Other If no speech, does your child give yes/no responses? Yes <input type="checkbox"/> No <input type="checkbox"/>	
MOBILITY Walk unaided <input type="checkbox"/> Walk with assistance <input type="checkbox"/> Crawls <input type="checkbox"/> Stroller/wheelchair <input type="checkbox"/> Assisted transfer <input type="checkbox"/> Other Refer to Special Needs Care Plan for special mobility needs if required.	
NUTRITION AND HYDRATION Usual diet (i.e. puree, mash, cut portion size) Special feeding requirements (i.e. oral, NGT, PEG) Type of formula/enteral feed Dietician referral Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Refer to Special Needs Care Plan for special nutritional needs if required.	
ELIMINATION Toilet trained Day <input type="checkbox"/> Night <input type="checkbox"/> Nappy Day <input type="checkbox"/> Night <input type="checkbox"/> Bowel pattern Constipation Yes <input type="checkbox"/> No <input type="checkbox"/> Tx Refer to Special Needs Care Plan for special nutritional needs if required.	
SLEEP Sleeping pattern Dummy Yes <input type="checkbox"/> No <input type="checkbox"/>	
DISCHARGE PLANNING	
Estimated discharge date	Date of discharge Time of discharge
Discharge to care of	
Discharge Nurse	Signed
Activity <input type="checkbox"/>	Appointments <input type="checkbox"/>
Education <input type="checkbox"/>	Equipment <input type="checkbox"/>
Referrals <input type="checkbox"/>	School <input type="checkbox"/>
	Dietary Needs <input type="checkbox"/>
	Handouts <input type="checkbox"/>
	Day Care <input type="checkbox"/>
	Discharge <input type="checkbox"/>
	HITH <input type="checkbox"/>
	D/C <input type="checkbox"/>
Comments (including condition of child on discharge)	