Chapter 7: Conclusions, recommendations and implications

7.1 Introduction

This chapter presents the conclusions of this study based on the findings presented in Chapters 5 and 6. The conclusions are discussed in Section 7.2 in relation to the literature reviewed in Chapter 2. The conclusions were developed to fulfil the broad aim of the study presented in Chapter 1, which was to explore the medication administration experiences of RNs. Section 7.3 of this chapter discusses the implications of this study for nursing policy, practice and education, and the study's limitations are presented in Section 7..4. Section 7.5 proposes some recommendations for future research before concluding this chapter with my closing remarks.

7.2 Conclusions

Three major conclusions are presented in this section, based on the findings of this appreciative inquiry, which explored the experiences of medication administration by RNs through generative data collection and collaborative interpretation processes. The conclusions are derived from the themes that evolved from the qualitative observations and discussions with the RNs who volunteered for this study.

The first conclusion is that the participants valued their education and drew heavily on it to inform their practice. As a result of their education, the participants clearly understood the responsibilities associated with their role and the QUM that was expected of them. This highlighted the importance of teachers as positive role models for the establishment and development of the participants' confidence and competence in their medication administration practices. The education the participants recalled was found to be consistent in several aspects including the rights framework, pharmacology concepts, the 'bigger picture' of patient assessment and

the professional accountabilities of RNs for medication delegation and patient safety. This first conclusion addresses the first and second objectives of this study, which were to explore and describe the experiences of RNs who administer medications. It was clear that all participants valued the application of knowledge and skills in clinical practice with the support of competent preceptors, even though their individual experiences varied.

The second conclusion is that the participants valued practice, but had concerns about the limitations and challenges of the clinical environments. Underpinning this conclusion is the value they placed on environments that support and enhance their capacity for safe and effective medication administration. Functional clinical environments were essential for the participants to transfer their knowledge into safe practice. The application of theory to practice was seen in a range of innovative strategies developed by the participants in order to ensure that patients received their medications safely despite the constraints and challenges of less than ideal clinical environments. Regardless of the context of practice, access to medication administration resources was considered essential for the participants to be able to fulfil their role appropriately.

The third conclusion is that the participants valued people, which is based on the central theme that appeared in the findings of both the observations and interviews. This conclusion captures the person-centred approach that runs through all themes and anchors all three conclusions to the appreciative inquiry framework. RNs respected the roles of colleagues, other members of the medication team and patients, and they pride themselves on working collaboratively with them. The RNs in this study demonstrated persistence in fulfilling their duty of care to the patient to the best of their ability despite a variety of challenging encounters and workplace obstacles.

These three major conclusions affirm that the RNs in this study drew on their prior knowledge and continued to develop their practice to deliver safe, person-centred care. The participants used their expert knowledge and clinical judgement to develop a variety of creative strategies to address interpersonal, organisational and contextual challenges that were encountered in the four acute adult inpatient settings. The

conclusions are discussed below in relation to the literature and theoretical framework to demonstrate the significant and unique contribution that this study has made to currently knowledge about medication administration.

7.2.1 Conclusion 1: Participants value their education and draw heavily on what they learned to inform their practice

The findings about *teaching*, *teamwork*, and *time* discussed in Chapter 6 support the first major conclusion that participants valued their learning from pre-registration education. They described their educational experiences as the source of the knowledge, skills and attitudes that they drew on to further develop their professional role in regards to medication administration. As anticipated and without exception, the rights framework was a recurring theme among their recollections of medication safety and all stated that this was a high-profile topic in the curricula. In addition, the tenets of nurses' professional accountability for patient safety as expected by licensing authorities (ANMC, 2006) were also recalled as core curricula concepts. The participants constantly referred to the rights framework as the basis for safe practice but, as highlighted by the observations, strict adherence to the framework was not always visible. Consistent with the literature in Chapter 2 that discussed the rights framework as core to safe medication practice (McKenna & Lim, 2014a, 2014b; Parker, 2012; Reid-Searl et al., 2007), the findings confirmed the ubiquitous presence of the rights framework in nursing education and practice as 'a big thing' that 'you have to have'. There was no indication that the participants had ever considered whether the effectiveness of the rights framework for ensuring safe practice was supported by evidence. It was, however, clear that the rights framework was not the basis for some of the actions the participants took to safely administer medications.

When the participants were asked to recall 'standout' features of their education, they cited the rights framework and the role and responsibility of the RN in advocating for and enforcing safe medication practice. The attributes of their education that they recalled reflected the requirements of the nurse's professional regulation competency standards (ANMC, 2006) and the broader expectations from the health industry.

Markedly, as exemplified in Chapter 5 and Conclusion 2, the participants embraced their patient advocacy role as pivotal to all aspects of their medication management behaviours.

The first conclusion is contextualised with examples from the findings and compared to the literature reviewed in Chapter 2. The overwhelming negative tone of the discourse associated with nurses and medication administration was noted in Chapter 2 and related to an overemphasis on risk aversion and error reporting. The focus on errors was noted in the findings, as participants initially recalled medication errors and problems and indicated that the rights framework was their guide to safety. The participants also expressed fear associated with licensing authority's requirements, indicating that they were mindful that medication errors could cost them their registration.

Coinciding with the focus on errors in the literature, the participants also identified variations to the rights frameworks. Despite the numerous variations of the rights framework found in the literature, such frameworks are overwhelmingly published in the literature as the 'gold standard' for safe medication administration globally (Brotto & Rafferty, 2012; deLange, 2013; McGovern, 1988, 1992; McKenna & Lim, 2014b). However, the variations in the number of rights in the framework may be a hindrance to practice. This study focused on understanding the 'bigger picture' with a more holistic view of patients' needs. In particular, the findings from this study suggest that, despite stating that they are required to adhere to the rights framework, the participants sometimes deviate from these rules in order to maintain safe practice. The practices observed and discussed in Chapter 5 indicate how the participants adapted and added to the rights framework to suit the unique circumstances surrounding each patient.

The five (or more) rights featured heavily in the reflections of these participants, but from both the observations and the interviews it was evident that they were not the only way to ensure safe practice. Corresponding to the broader view beyond the rights framework (Eisenhauer et al., 2007; ISMP, 2004; Pauly-O'Neill, 2009; Pennsylvania Patient Safety Authority, 2005), the five rights are observed in this study as one safety strategy, and not as an overarching rule or framework that is

performed without consideration of contextual factors. There are suggestions in the literature that fear of the consequences of breaking the rules (Arndt, 1994) and the clear focus on complying with the rules may shift the attention of nurses to work without consideration of the unique factors that surround each episode of medication administration, and this may negatively impact safe practice (Schneider, P. J., et al., 2006). The advice of Doherty et al. (1950) to concentrate on the task at hand is evident throughout the findings of this study in the many and varied ways in which the participants adapted concepts they had learned in nursing curricula to fulfil their role in safely administering medications.

In contrast to the literature that sees medication errors as the consequence of any deviation from the rights framework (Brotto, 2013; Giangrasso & Shrimpton, 2010, 2013; Olsen et al., 2012), the participants in this study were observed to safely administer medications without always explicitly demonstrating rigid adherence to the rights framework criteria. For example, in some situations, the participants used 'social chatter' and 'facial recognition' in place of other behaviours discussed in the literature, to identify the patient. The participants discussed how these actions fulfilled the safety criteria of ensuring the 'right patient'; they just accomplished this by other means. Practice was adapted while also clearly understanding the safety, legal and procedural requirements. The fact that no adverse events occurred during this study is testament to the ever-present attention to ensuring patient safety that these participants displayed.

This conclusion supports studies discussed in Chapter 2 that suggest nurses use clinical reasoning/critical thinking to make professional judgements about how they apply their knowledge to practice (Banning, 2003; Benner, Hughes & Sutphen, 2008; Dickson & Flynn, 2012; Levett-Jones, 2013; Sitterding et al., 2014). After all, the development of problem solving and critical thinking skills forms the basis of nursing education programs in Australia and is the key reason why in the late 1980s nursing education moved from a work-based apprenticeship model to tertiary education settings (ANMAC, 2012).

As discussed in Chapter 2, many studies of medication administration focus on the five rights framework as a central tenet to safe nursing practice, which negates

professional nurses' skill in assessing situations and applying expert clinical judgement (deLange, 2013; Elliott & Liu, 2010; Giangrasso & Shrimpton, 2013; Sullivan, 1991). There is definitely a tension between the prominence of this framework in the literature and the requirement that nurses be educated to think critically about patient care, including medication administration and responses (Cox, 2000; Elliott & Liu, 2010; ISMP, 2004; Rushlow, 2003; Schoenecker, 2007; Smetzer, 2001). Modern nursing education requires that graduates be able to assess the patient condition in relation to the medication (McKenna & Lim, 2014b) and understand pharmacology and medication indications (Honey & Lim, 2008; Lim & Honey, 2014). The participants in this study confirmed their knowledge of QUM and accepted their role as the 'eyes and ears' of medication management (National Prescribing Service Limited, 2012).

The findings in Chapter 5 support those of other studies that the critical thinking demonstrated by nurses at the time of medication administration is essential to the ongoing broader care of the patient and the therapeutic effect of the medication (Manias, Aitken & Dunning, 2004a; McKenna & Lim, 2014b). The participants in this study demonstrated critical thinking as advocacy for patient safety. The underlying nursing actions, strategies and principles associated with medication administration need to be made explicit in the practice guidelines that are used in teaching if students are to gain additional benefits from clinical decision making resources. The positive lessons learned from this study must be exploited to enhance future practice and therefore patient safety.

Contrary to the findings by Honey and Lim (2008) that suggested preceptors were time poor nurses with a negative attitude, the findings of this study, for the most part, identified the positive attributes and support of preceptors as transformative to safe and effective practice in relation to medication administration. Participants in this study spoke of the preceptors as among the first memorable clinical role models whom they encountered and, like other studies (e.g. Croxon and Maginnis, 2009), discussed the preceptor's crucial contribution to the development of practice competencies and attitudes. The preceptors were described as 'the cornerstones of lifelong learning'. In a study by Croxon and Maginnis (2009), effective preceptors were characterised as being available, approachable, knowledgeable and willing to

teach. The findings in Chapter 6 support those of earlier studies that preceptors who strive to be positive role models are instrumental in creating a constructive learning environment and contribute to establishing medication safety attitudes and practice (Croskerry et al., 2004; Croxon & Maginnis, 2009). Transformative learning emanated from the positive role modelling the participants in this study experienced with preceptors. In the opinion of Croskerry et al. (2004), this is anticipated because of the importance of mimicry in situated learning. Therefore, competent preceptors contribute to the professional development of students and new graduates.

The study findings reflect the holistic approach that the participants took to understanding and applying the concepts of pharmacology, critical thinking, patient assessment and the role of the RN that was underpinned by their theoretical and practice education, and role modelled by their preceptors. The participants acknowledged that the theory and clinical placement learning in their pre-registration programs was the central core of their clinical decision-making skills in practice.

In brief, all the participants in this study mentioned the rights framework as a set of rules that they learned early in their education. However, it became clear that all the participants built on this foundational knowledge and applied clinical judgement and critical thinking to advocate the patients and ensure safe practice when administering medications in complex and sometimes under-resourced healthcare environments.

7.2.2 Conclusion 2: RNs value their practice and require environments that support professional practice

The second major conclusion from this study is that participants valued their practice and all that it entails. The literature confirms that RN's take their role seriously (McKenna & Mirkov, 2014) and this was evident in the attitudes and behaviours of these participants. The participants were striving to complete medication administration safely and effectively in the shortest amount of time. The facilitating factors that were valued as assisting safe and effective practice, as discussed in Chapter 6, included access to resources that support clinical reasoning for nursing actions. In particular, the study found that clinical environments were not always

conducive to an easy transfer of knowledge to practice. Participants were observed to implement strategies beyond the rights framework to address organisational obstacles that interfered with the routine administration of medications.

Confounding factors in practice contexts are pervasive in the literature (Anthony et al., 2010; Barclay & Lie, 2010; Biron, Loiselle et al., 2009). The ease with which the rights framework is presented as applied to practice is often negatively influenced by contextual issues, barriers and challenges, as identified by the participants in this study. This reflects findings from previous studies by acknowledging the tensions that exist between taught 'ideals' and the messier realities of practice (Maginnis & Croxon, 2010). Medication administration clearly happened parallel to other nursing activities rather than as a distinct sequential process expressed by the rights framework. The findings of this study concerning organisational and contextual factors are consistent with the literature about how interruptions can have an impact on safe medication administration (Fogarty & McKeon, 2006; Gray & Williams, 2011; McKeon et al., 2006).

However, consistent with a constructivist approach, the participants developed their practice and designed their own processes to meet the challenges instead of just adhering to the rights framework. For instance, the repeated examples of 'chasing' doctors, colleagues, supplies and equipment and 'checking' for compliance with legal and professional expectations demonstrated that the participants were required to interrupt and add to the rights framework with other actions that enabled safe completion of the process. The importance the participants placed on the scope of their registration was reflected in their actions and comments about safe and effective practice. Their active collaboration with doctors is consistent with the RN professional code of conduct, industry expectations and global recommendations. Consistent with the literature, teamwork to advocate for patient care and safety was a consistent goal of the participants despite limited resources and time pressure (Arkinstall, 2008; Fiore et al., 2005).

Multitasking to make up time then became an issue and the participants developed a range of strategies to keep themselves on task and on time. Participants' application of critical thinking/clinical reasoning to address some of these challenges was

evident and consistent with the literature on the need for nurses to have well-developed and proactive problem-solving skills (Banning, 2003, 2004, 2006; Levett-Jones et al., 2010; Levett-Jones, Gilligan, Lapkin & Hoffman, 2012). The ways that the participants resolved some medication administration issues could not possibly be accounted for by the rights framework but was evidence of critical thinking for safe practice.

The ever-present principle of patient safety was discussed by all the participants and observed in their active role of being a patient advocate. Supported by the literature, the advocacy role was aligned with safe practice principles (Standards Australia and Standards New Zealand, 2009). The participants explained that the strategies they used were 'for the safety of the patient'. Especially, they talked about their pivotal role in building partnerships among the members of the multidisciplinary medication management team. Indeed, the literature in Chapter 2 suggests that effective clinician relationships are critical in responding to medical errors (Gottlieb, 2013; VanGeest & Cummins, 2003).

The findings about teamwork related to the patient advocacy role are representative of the 'bigger picture' foundations that the participants brought to the forefront of their practice as they recalled the importance of the nurse as the conduit of communication and the sentinel and ally of patients with regard to safe medication management. Communication techniques that the participants used to act as safety advocates ranged from simple information sharing with patients and colleagues to difficult and crucial conversations to gather clinical data on which to challenge the clinical decisions of other health professionals. Consistent with the literature, the participants acknowledged their need to address the 'authority gradient' to effect safe patient care (Cosby & Croskerry, 2004, p. 1342).

This study reinforced the findings of other studies that medication management tasks make up a considerable percentage of nursing workloads (Ampt & Westbrook, 2007; Keohane et al., 2008; Thomson et al., 2009; Thorpe-Jamison, Culley, Perera & Handler, 2013; Westbrook et al., 2011). The findings in this study suggest that the medication management workload is easier to manage when there is effective functioning of the inter-professional healthcare team. The relationship between the

participants and clinical colleagues was observed to be mostly respectful, but organisational factors such as workload, tools and the physical environment influenced the ease with which the team interacted. For example, in the Emergency Department medical staff were often on hand, while in the ward areas there were often significant delays when interactions with medical colleagues were requested. Congruent with the WHO's (2011) recommendations for adequate orientation, the participants emphatically identified that safe and effective medication administration was supported information sharing that enabled all members of the healthcare team to work together effectively to the full scope of their professional capacity.

Another key finding of this study was that interruptions had a significant impact on the participants' abilities to work safely and efficiently. This is evident in many of the studies discussed in Chapter 2 as the major cause of deviations from the rights framework that led to errors (Anthony et al., 2010; Biron, Lavoie-Tremblay et al., 2009; Craig et al., 2014; Westbrook et al., 2010). The participants in this study did not suggest ways to reduce interruptions; rather, they seemed to accept them as a feature of their daily working lives.

Furthermore, actions taken to perform an advocacy role in medication management included organising and restocking medications in drawers, reviewing pharmacy resources for better medication options, negotiating prescription changes with medical colleagues and sourcing medications. The poor quality of orientation and education of medical staff with regard to the use of NIMC was discussed by several participants and identified as a risk to safe practice. This finding is consistent with those of the ISMP (2005).

Medication management works well when the physical resources required for clinical decision-making are available, complete and organised (Arkinstall, 2008; Fiore et al., 2005; Levett-Jones et al., 2012; Ndosi & Newell, 2010). In this study the clinical decision-making associated with resolving a medication issue, the act of 'chasing', was observed as complex and time-consuming, requiring expertise in negotiation, but despite the participants' best efforts patients were occasionally observed to receive their medications late. Furthermore, as described in Chapters 5

and 6, ‘chasing’ works well when the one being ‘chased’ is receptive to the participants’ reasons for chasing and willing to assist in resolving the issue.

The literature explains that the late administration of a medication is considered an error (Szczepura et al., 2011). However, it was evident in this study that in practice, timely administration is not as simple as it seems. The findings provided numerous examples of strategies that these nurses used to meet the aims of the rights frameworks while also manoeuvring around and manipulating their environments. Much of the RNs’ time was spent acquiring resources to fulfil their role. In spite of the practical impediments in their clinical settings, they worked collaboratively with others to make every effort to complete medication administration as intended.

Healthcare teams are described in the literature as constructed to include professionals with knowledge and skill sets that are complementary (Duxbury, Wright, Hart et al., 2010). Recognising that collaboration and teamwork are imperatives of safe practice, Duxbury, Wright, Bradley et al. (2010) state that ‘clear communication between colleagues and the imparting of accurate and clear instructions is imperative for continuity of care’ (p. 58). Reid (2006) suggests that in regards to medications team members rely on their fellow team members ‘to detect errors and avert patient harm’ (p. 26). This study supports the notion that these participants were pivotal in monitoring medication delivery and were relied upon by doctors to identify and correct prescribing errors. This finding is indicative of the expectations of the RN role discussed in Chapter 2 (McKenna & Lim, 2014b; National Prescribing Service Limited, 2012).

Compared to the literature that describes nurses as the sentinels of medication safety (Sato & Senesac, 2007), participants in this study took this aspect of their role very seriously. They increased their surveillance of the process when medication administration was delegated to others, or when the administration was non-routine. The ‘step it up, expand the focus’ subtheme discussed in Chapter 6 indicated the importance of teamwork to safely manage medications, but this strategy added to being ‘busy’. This new finding adds to the existing literature about workloads and workflow (Ampt & Westbrook, 2007; Elganzouri et al., 2009; Westbrook et al., 2011). The workload allocations often left the participants in this study time poor. To

manage the imbalance, the participants described a number of ‘work-arounds’ such as pre-setting to facilitate timely and safe medication management.

The participants described their practice environment as ‘busy’. The ‘busy’ feeling was combined with the need to ‘rush’ so that medications could be administered quickly because of competing demands. This is consistent with the findings of an earlier study that nursing staff are hard-pressed to efficiently complete medication administration with heavy workloads and an increase in the number of medicines prescribed (Duxbury, Wright, Bradley et al., 2010). In addition, the literature suggests that the increased number of medications that many patients are prescribed places pressure on nurses at the times regulated by the NIMC for medication administration to get the medications prepared and delivered. To address this challenge, the participants were observed to work together and help each other prepare and administer medications. When this strategy was successful, the patients received their medications at the time prescribed.

Subsequently, the participants were noted to actively engage with multiple medications at various times during the day. ‘Checking’ was one action that is reported in the literature as a necessary step of the medication administration process for some medications (Alsulami et al., 2014; Dickinson et al., 2010). However, the workload implications of the checking behaviours are not reflected in the literature and this study identified that while ‘checking’ behaviour was observed to facilitate the safe administration of some medications, it also constituted an interruption for some of the participants who were pulled away from their own duties. The strategies discussed in the literature to reduce interruptions such as ‘no interruption zones’, ‘vests’ and ‘sterile cockpits’ (Anthony et al., 2010; Breeding et al., 2013; Craig et al., 2014; Federwisch et al., 2014) were not evident in this study, nor was it obvious how the process of medication administration and the required ‘checking’ could be accomplished without interrupting others’ work. The participants used strategies of organising the clinical environment and communicating with their colleagues to manage medications safely in these circumstances.

Some participants in this study described the practice environments they encountered as ‘chaotic’ and like ‘Piccadilly Circus’, which is consistent with the findings of

numerous other studies that report complex clinical environments as a contributory factor to medication errors (Barclay & Lie, 2010; Biron, Loiselle et al., 2009; Fry & Dacey, 2007; Güneş, Gürlek & Sönmez, 2014; McGillis Hall et al., 2010; O'Shea, 1999; Sitterding et al., 2014; Smeulers et al., 2014; Verweij et al., 2014). Participants were observed to work consistently within the chaotic environments to meet workload demands and administer medications safely. It seems that along with strategies to successfully administer medications, they had also developed a level of tolerance and resilience to workplace stressors. It was found that practicing effective collaboration with all members of the medication management team enhanced the capacity for the participants to achieving safe practice and peace of mind.

In brief, this conclusion has reinforced that well-resourced practice environments with cultures that enable people to work collaboratively are valued because they are conducive to safe medication administration.

7.2.3 Conclusion 3: RNs value people and strive for safe and effective care above all else

The last conclusion illustrates that nurses value the contributions of people involved in the fulfilment of safe and effective medication management. All findings in this study are central to this conclusion. This core conclusion is consistent with the appreciative inquiry framework and relates to the priority that the participants placed on safely managing medications based on the core values and concepts from their education and practice as well as to the other people central to the process – most importantly, the patient.

The participants understood that coordinating others and the environment was necessary to deliver therapeutically appropriate care and effective medication treatments. In order to achieve person-centred medication management, they worked in teams and recognised the need for respectful communication and collaboration with colleagues from nursing and other disciplines. The participants were observed to involve the patient in most medication decision-making.

This conclusion indicates that the participants recognised their role as the communication conduit between the patient and other healthcare professionals, which supports the findings of Cosby and Croskerry (2004), who describe this position of nurses as one of the most crucial to patient safety. Similarly, Duxbury, Wright, Bradley et al. (2010) recognised the communication conduit role of nurses in 'the need to administer medications accurately' (p. 58).

This study identified strategies like 'chasing' up people and resources, which are central to the completion of medication administration. This strategy had participants actively seeking to engage effectively with other members of the medication management team such as doctors and pharmacists to enable participatory collaboration and cooperation for completion of the task. This is a new finding that emerged using the appreciative inquiry approach. One example of the benefit of this collaboration, as discussed with several participants, is the valuable role of the ward pharmacist in reviewing and contributing to the NIMC so that the participants have comprehensive medication information to support their clinical decision-making. While the contribution of pharmacists is recognised in the literature in terms of reducing errors, their value in facilitating the safe practice of nurses, from a strengths-based perspective, is less recognised (Coombes et al., 2011; Fiore et al., 2005; Kocarnik et al., 2012; Ndosi & Newell, 2010).

The findings of this study confirm the perspectives in the literature that nurses need to be the 'eyes and ears' of medication administration and that their ability to collaborate effectively with others is what assists them to see the 'bigger picture' to inform and effect positive completion of medication administration (National Prescribing Service, 2012; Garling, 2008). In this study, the patients were undeniably the epicentre of all decision-making, as demonstrated by the participants who would modify their work practices at times and increase their surveillance of others' practices in order to support the safe practice of their colleagues.

In addition to communication between clinicians, regular and comprehensive communication with the patients about their medications was also found to be essential for safe medication administration. The participants placed value on effectively engaging with patients to protect their rights to appropriate information

and education. The literature confirms that explanations of medications and clinical rationales for their use are necessary to assist patient compliance and protect patient rights (DeBourgh & Prion, 2012; Ndosi & Newell, 2010; Polifroni, McNulty & Allchin, 2003). The need to practice from a patient-centred perspective is not reflected in the rights framework that underpins the education of nurses about medication administration and is adopted by many health services including the location of the study (Medication Services Queensland, 2009a). As evidenced in Conclusion 1, the participants developed this practice, based on other aspects of their education, applying clinical judgement to ensure that they consider the 'bigger picture'. The tacit knowledge of the participants extends beyond the limitations of the rights framework to provide person-centred care, which is clearly a strengths-based outcome of this study.

Reflective of the aims of an appreciative inquiry, the conclusion that the participants value people and display this by collaboration with colleagues and patients is described in the literature as best practice for safe and effective nursing care (Clarke et al., 2012; Duxbury, Wright, Hart et al., 2010). The participants in this study epitomised the practice of actively engaging with colleagues and patients throughout their episode of care. The participants were observed to meet their professional obligations by demonstrating the principles of respect, advocacy, professional responsibility and accountability and most importantly patient safety, which are core competencies of their license to practice (ANMC, 2006). These findings support the literature on the value of effective communication with colleagues and patients to facilitate the safe management of medicines (Campbell, 2013; Duxbury, Wright, Hart et al., 2010; WHO, 2009a). Conclusion 3 contributes to the literature about the crucial nature of collaborative interactions with patients and colleagues to inform effective clinical decision-making (Gottlieb, 2013; Groene, 2011; Levett-Jones, 2013; Staun, Bergström & Wadensten, 2010).

As identified in the literature, teamwork and, in particular, respectful communication between all members of the medication team is crucial to patient safety (Clarke et al., 2012). Clinician communication should be respectful, comprehensive and include the patient (Geller, 2012; Levett-Jones et al., 2012; W. Liu et al., 2012; W. Liu, Manias & Gerdtz, 2013). The appreciative inquiry approach of this study uncovered hidden

aspects of practice that make positive contributions to achieving this goal. It allowed the nursing practice associated with the rights framework to be interpreted differently to identify the person-centred approaches of the participants. Despite practical impediments, the participants focused on management of the medications to achieve the best outcome for the patient. The safety of the patient wa foremost in their minds and the pinnacle of their practice priorities. However, as evidenced in this study and others, there were many times when this focus on the patient meant that strict adherence to organisational guidelines such as the rights framework was not the priority (Arkinstall, 2008; Fiore et al., 2005; McKeon et al., 2006).

For example, when multitasking, the participants behaved in ways that, if observed in an audit-style study, might have been identified as deviating from the rules and interpreted as a medication error. Despite the overemphasis of research on medication errors, errors remain high (Evans, 2009). The appreciative inquiry approach found that the participants in this study were prepared to go beyond the boundaries of the framework and guidelines, which relates to the licensing concerns that are common to the literature (Arkinstall, 2008; Fiore et al., 2005). As observed in Chapter 5, providing the patient with their medications from their own personal stock before the doctor has completed the NIMC could be interpreted as a breach of protocol in an audit study. However, strict adherence to the guidelines in this case would have had an adverse effect on the patient; instead, the participant exercised sound clinical judgement to effectively avoid an error of omission, for the sake of the patient. In consideration of the tone of most of the literature about nurses and their practice of medication administration in Chapter 2, this study contests the dominant discourse and suggests that an appreciative inquiry has enabled the construction of a new view of nursing's contribution to safe and effective medication management. Furthermore, this study raises a deeper dilemma and that is the fit of the five rights to nursing practice. Obviously, as noted by Grissinger (2002), 'the five rights are not the be-all and end-all in medication safety' (p. 481). More importantly, this study suggests that the rights framework is the right goal but the wrong remedy and therefore requires due consideration for future guidance of policy and practice.

In essence, the third conclusions of this study is that the participants demonstrated that people matter in relation to ensuring safe medication administration practices.

The roles of all health professionals are recognised as critical to safe and effective medication management. However, it was noticeable in this study that no role is more important than that of the nurse in overseeing all others, and the participants demonstrated the use of skills and knowledge in negotiation with others that enabled safe medication administration. Consistent with the literature about the nurse's role as the glue to achieve patient outcomes (McCloskey, Bulechek, Moorhead & Daly, 1996), the participants in this study were found to act as patient advocates and clinician coordinators, bringing all personnel, resources and medication requirements together 'for the safety of the patient'.

Figure 7.1 provides a visual representation of the key conclusion of this study regarding the positive contributions the participants made to safe practice. The model was created from the positive and facilitating factors these participants brought to safe and effective medication administration. The process of aligning the positive factors into three value statements is congruent with the poetic principle of appreciative inquiry, and summarises the untold story of what works well in the administration of medication from the perspective of the participants in this study.

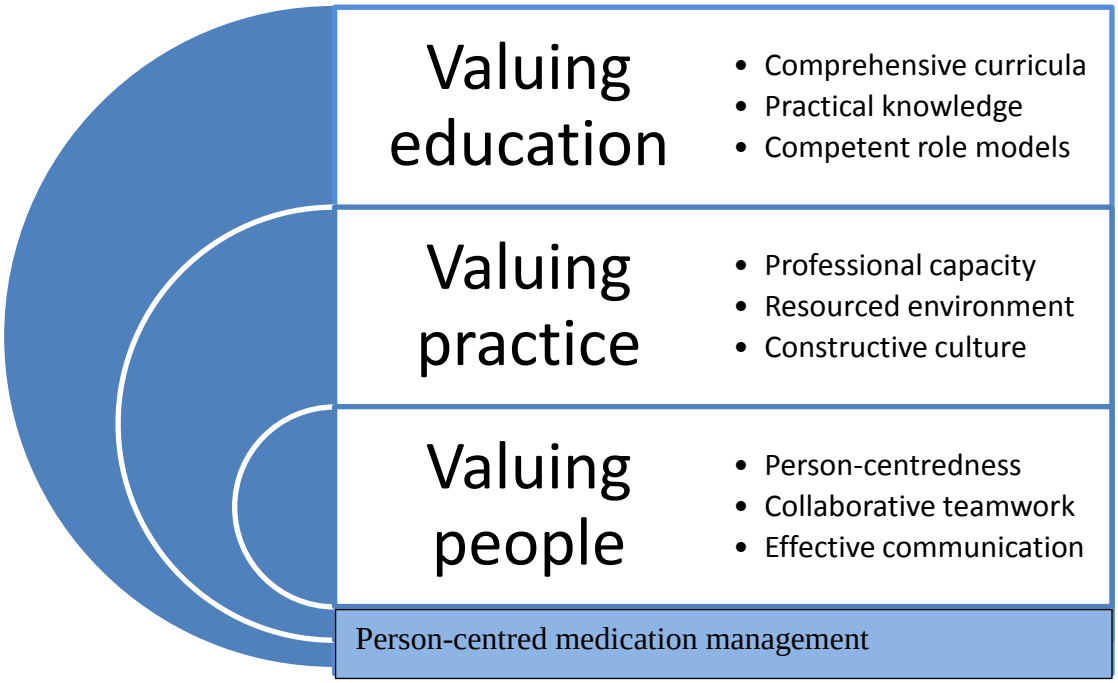

Figure 7.1: Person-centred medication management

Source: Developed by J. Martyn, 2015

7.2.4 Summary

The findings of this study have culminated in three major conclusions. This appreciative inquiry has discovered the essence of medication administration as the all-encompassing person-centred medication management approach by these participants. Consistent with the appreciative inquiry approach, this study did not deny that problems and challenges exist in practice. More importantly, the problems were used to contextualise the affirmative aspects of the experiences of these participants. Contrary to the majority of the literature, this study has explored medication administration to uncover the strengths and the solutions embedded in the everyday practices. Building on existing literature, this study used a strength-based approach to identify RNs' practice capacities to ensure safe medication administration.

The participants in this study exhibited extensive tacit knowledge that they drew to the forefront of their practice to apply person-centred values. They demonstrated what Lyneham (2004) calls the drawing together of theory and practice, which creates a 'fusion' of tacit knowledge and practice. This contradicts other studies that suggest that a theory practice gap exists in relation to medication administration (Higginson, 2004; R. L. King, 2004; Morgan, 2006). Consistent with appreciative inquiry, this study proposes that the existence of the gap is dependent upon the perspective from which it is viewed.

This study explicitly adds to the discipline knowledge about the RN practice of medication administration by using an appreciative inquiry lens to uncover contributory strategies and practices that have a positive impact on patient care outcomes. The oversimplification of medication administration as suggested by the linear process of the rights framework leaves out content, context and function, and cannot adequately describe the relational transactions that occur between the nurse,

colleagues and patients (Benner, 2001). This study reinforces that nurses are critical thinkers with discipline-specific knowledge and skills that are beyond the capacity of the rights framework to identify or measure. The participants exercised their patient advocacy role in every aspect of medication administration to manage the process safely to its conclusion.

7.3 Implications for policy, practice and education

In this section, the implications of the findings of this study to medication education policy and practice for nurses will be discussed. As discussed in Chapter 2, the direct relationship between organisational policy and practice frameworks was identified as a critical reference point for teaching and measuring practice in medication administration. As the WHO (2014a) recommends that policy should draw from research, the implications for practice are considered here in relation to the findings of this study and the recommendations for policy and practice. Finally, the implications of this research for nursing education will be considered following Thorne's (2014) recommendation that nursing theory should evolve from nursing evidence and be relevant to guiding practice, policy and education.

The rights framework is pervasive in education and policy and was evident in the practice of medication administration. Yet, as inferred in Chapter 2, the basis of this framework is unclear, the evidence base is weak and its relevance to nursing practice is questionable. Significantly, the origin of the five rights framework could not be confirmed by a review of the relevant literature, and it remains unknown whether nurses were ever involved in its development. What is evident from the literature is that the five rights appeared at a time when inpatient acuity was lower, fewer medications were available and technology was basic (Glaister, 1997; McGovern, 1988, 1992; Sullivan, 1991). In short, the patient characteristics, the complexity of their conditions and the clinical contexts were vastly different to those evident in contemporary clinical settings. Another key driver of medication administration education and policy is the focus on errors and problems related to risk management (Evans, 2009; Gibson, 2001; Roughead & Semple, 2008). Few studies have explored

nurses' experiences of medication administration and none have adopted a positive or appreciative inquiry approach to this topic.

The review of extant literature in Chapter 2 revealed inconsistencies in the rights frameworks and multiple complexities in clinical contexts (Drach-Zahavy et al., 2014; Fogarty & McKeon, 2006; Jones, S. W., 2009; Lin et al., 2014; McKeon et al., 2006) in relation to medication administration terminology and medication error research findings, making it impossible to determine how best policy could be developed to better support safe practice. Bowden (1996) suggested that policies, protocols and guidelines are examples of organisational structures that regulate and ritualise nursing practice, rather than supporting nurses to apply their expertise. Similarly, the rights framework, with its multiple variations and definitions of medication administration, has the potential to distract nurses from using their clinical judgement to ensure safe practice. Inconsistent practice frameworks have significant workforce implications in Australia, where national registration has enabled nurses to work between institutions and across state boundaries.

Therefore, it is imperative that a consistent framework be established to support clinicians in practice and the patients as the recipients of that practice. Currently, in Australia, the National Prescribing Service Limited (2012) is endorsed for providing education and information in regards to QUM. An extension to the scope of the responsibilities of this body to review medication management policy in relation to the conceptual inconsistencies would go some way towards addressing the confusion. Of particular benefit would be the establishment of a practice framework that draws on research evidence rather than the five rights.

Subsequent to any policy changes, it is recommended that all members of the medication team be adequately informed. However, it is anticipated that in the process of any policy review all key stakeholders would need to be consulted, including patients. As demonstrated by this study, there is hidden medication management knowledge in nursing practice that could be better reflected in policy.

Tacit knowledge is recommended by Lyneham (2004) as fundamental to the practice of nursing because nurses must first interpret the basic understandings and then read

between lines to synthesise the information to inform practice. Lyneham (2004) argues that nursing knowledge is covert and therefore invisible in practice, and this is certainly the case in this study. Tacit knowledge is also described as knowing in action and is not explicit (Schon, 1987). The undiscovered nature of some nursing practices could explain why they go unnoticed in this or other studies (Paliadelis, 2008, 2013). The implication of this is that only purposeful investigation will uncover the hidden and taken-for-granted strategies that are contributing to safe practice. Therefore, every policy that relates to medication administration should draw on the tacit knowledge of nurses to inform the process of re-development. It is recommended that the findings of this study be used to inform policy and practice and therefore education, and more appreciative inquiry studies should be encouraged to build a greater body of knowledge about positive nursing practices.

The ISMP (2005) lists orientation for frontline nurses as essential because they are more likely than any other health professional to have firsthand experience with many of the error-prone systems. Therefore, the insights of this study could be included in the content provided during orientation for both medical and pharmacy staff and students as a multidisciplinary and collaborative approach to orientation. It is essential that any adjustments to the medication administration policy or process involve input from nurses to ensure that they are realistic, achievable and reflective of contemporary nursing practice. Nurses should also be consulted in the implementation and functioning of any new tools to ensure the broadest view of the impacts (B. Barker, Barker & Flynn, 2010).

From the patients' perspective, the provision of a quiet consulting room where clinicians and patients alike can retreat to discuss medication therapies and problem-solve when needed would facilitate the cognitive work required to share best practice strategies (Clarke et al., 2012). It would also be useful to develop organisational guidelines that require effective communication between doctors and nurses so that nurses are not always the ones required to 'cut in' to medical conversations to advocate for the needs of the patient and ensure that doctors are provided with the details they need to make informed clinical decisions. Ensuring the provision of organisational support for effective communication, sanctions for rudeness and quiet spaces dedicated to medication management processes where interruptions are

minimised are recommendations from this and several earlier studies (Anthony et al., 2010; Biron, Loiselle et al., 2009; Craig et al., 2014; Donaldson et al., 2014; Federwisch et al., 2014; McGillis Hall et al., 2010; Pape, 2013; Sitterding et al., 2014; Tucker & Spear, 2006; Verweij et al., 2014; Westbrook et al., 2010).

The participants were required to cope with less than adequate practice environments to make spaces and organise medications. Pre-setting was one example used as a time-saving measure when numerous medications were due at the same time. Plainly, the NIMC needs to be revised to ensure that nurses have the option to vary times to be more appropriate for the patient, the type of medication and the clinical environment. In support of earlier literature, this study found that lighting and space in the medication preparation areas was unsatisfactory for safe practice (Graves et al., 2014). Participants were often observed to be jostling for space during times of high demand for injectable medications and schedule 4 and 8 medications. They also used torches and phones to illuminate small writing on medication packaging. When environments are not conducive to safe practice, the organisations must be forthcoming to resolve the issues. Resourcing the environments is the most crucial recommendation from this perspective, and the nursing profession can lobby for change if this is highlighted in relation to the QUM agenda.

A solid education foundation is essential to safe nursing practice (ICN, 2012). Therefore, as explained in Chapter 2, nursing curricula must meet standards set by authorities who accredit nursing education programs (AHPRA, 2015; McMillan, Rochester & Waters, 2012; Ralph et al., 2015; WHO, 2011). Issues of disparity were found in how education institutions, interstate and internationally go about the implementation of the standards (Callen & Lee, 2009; Cottingham et al., 2008; Cummings, 2014; Fleming, Brady & Malone, 2014; Van de Mortel, Whitehair & Irwin, 2014; Wellard, Woolf & Gleeson, 2007; Wu, Hwang, Su & Huang, 2012). Owing to the differences in interpreting the standards, divergent curricula are developed and delivered; consequently, the assessment of undergraduate nurses for the safe and effective management of medications varies (Banning, 2004; Coben & Weeks, 2014; Cummings, 2014; Gonzales, 2012). Despite different approaches to the participants' education and variations in assessment methods, the educational experiences in this study were described as 'excellent'. The topics that were recalled

from the teaching were congruent with the extant literature about the educational needs of nurses who administer medications (Banning, 2004; Cartwright, 1996; Van de Mortel et al., 2014; VanGeest & Cummins, 2003).

In relation to general nursing education, the ICN (2009b, p. 6) recommends that nurses need to be taught to be life-long learning critical thinkers because they are expected to function autonomously while providing safe and competent clinical care through critical thinking that evaluates knowledge. Nursing education providers must aspire to produce knowledgeable workers who are capable of delivering acceptable levels of care to culturally diverse societies (ICN, 2009b, p. 5).

Critical thinking skills include being able to discern relevant information, assess the current situation, problem-solve and design actions that meet the needs of the circumstances (Levett-Jones, 2013). Consistent with studies from multiple disciplines, the findings from this study suggest that nursing education needs to focus on enhancing the strengths required for solving conceptual problems and practical skills to develop capacities for critical thinking rather than rote learning procedures, or frameworks (Cederbaum & Klusaritz, 2009; Levett-Jones, 2013; Levett-Jones et al., 2012; Martyn et al., 2014; Weeks, Hutton, Coben et al., 2013). As previously mentioned, greater use of pedagogies such as simulation, reflection and PBL are recommended to provide authentic experiences of medication administration learning simulation. PBL and reflective practice strategies might be helpful for developing medication knowledge, skills and attitudes in this area, as would less reliance on the rights framework as the backbone of medication administration education (Campbell, 2013; Martyn et al., 2014; Weeks, Hutton, Coben et al., 2013).

Furthermore, Pauly-O'Neill (2009) suggests that errors that occur in a practice setting usually occur in nursing school first. Medication courses that use the methods above to teach beyond the five rights and reflect the competencies required for practice may better address these practice problems (Pauly-O'Neill, 2009). In relation to this recommendation, ANMAC (2012) endorses the inclusion of nursing research outcomes into curriculum development to prepare nurses to conduct and critically evaluate research findings. This is justification for a new view of practice.

Another possible education strategy that could enhance student learning about medication administration is to embed practice-based nursing academics in the development of curricula to assist in resolving the dissonance in practice realities to academic ideals (Maginnis & Croxon, 2010). A curriculum should be based on relevant research knowledge rather than traditional frameworks (Schoenecker, 2007; Thorne, 2006). Studies such as this one are necessary because 'Theory supported by research findings becomes the foundations of theory-based practice in nursing and midwifery' (Schneider, P. J., et al., 2006, p. 7) and is therefore essential in medication administration, where outdated frameworks are the current focus. At an international level, the integration of medication management concepts into all nursing courses as core content would facilitate a whole-of-curriculum approach to improving medication practice (Van de Mortel et al., 2014). However, it is essential that a discipline-specific focus be maintained rather than adapting content originally designed for curricula of other health professionals to nursing courses (ANMAC, 2012; Turner et al., 2003). Additionally, the teaching must be relevant and authentic to assist the development of the tacit knowledge evident in this study as a strength of nursing practice.

As the value of preceptors featured heavily in the recollections of the participants, one recommendation to support the preceptors in the teaching of medication administration is to ensure that they have direct linkages with the education provider so that the curriculum content is clear. The clinical placement is the best place for students to apply their knowledge and be assessed when administering medications. Supporting the role modelling of best practice with tools and teaching will enhance future nursing practice.

Similar to other studies, the organisational and environment constraints of administering medications were reported to be frustrating in busy ward environments where staff are under time pressure and team communication is sometimes difficult (Duxbury, Wright, Bradley et al., 2010). At a local level, one way to reduce the frustration and busyness related to medication stocks would be to have a pharmacist regularly restock the medications at the time they review the NIMC. In particularly, restocking the medication supplies at the time of admission of the patient would ensure that the medications required for future administration were available. This

would require greater investment in staffing, but would potentially reduce costly errors. The medication drawers of this health service could also be better organised with dividers similar to those in automatic dispensing machines so that the medications are easier to access. One other suggestion is to ensure adequate access to the keys required for nurses to avoid delays associated with controlled substances during the high-demand times. In relation to the practice of 'chasing' and specific to the tools required, at the local level a designated danger-drug cupboard key-carrying RN could be appointed as the checker and chaperone for the S4 and S8 medications to avoid the need to 'chase' the keys, as described in Chapter 5. They could be allocated workload that would allow them to be available during the busy time and to assist with normal duties at other times. Consistent with the findings of other studies, it is suggested that a 'no interruption zone' could be established for the purpose of managing controlled substances so that RNs are not pressured into multitasking.

Lastly, it is important that the results of this appreciative inquiry are published and disseminated widely to raise awareness of the value of exploring positive aspects of nursing practice so that person-centred care can be enhanced. Strategies like appreciative inquiry are empowering to the profession and improve the broader perspective of nursing practice (Paliadelis, 2008, 2013). Cooperrider (1986) the founder of appreciative inquiry was cited in 1988, as saying: 'when we reframe the paradoxes appreciatively, they become liberating constructs as opposed to constraining. … the paradoxes reveal possibilities that would not have been visible otherwise' (Quinn & Cameron, 1988, p. 78).

It is essential that more strengths-based studies such as appreciative inquiry raise the awareness of positive nursing practices (Clossey et al., 2011; Gottlieb, 2013; Thorne, 2008, 2014). If nurses are ever to make a significant difference to the socially constructed view of them as perpetrators of poor medication administration practice, they need to digress from the error focus that is prevalent in the studies and aspire to improve practice through visioning. It has been suggested that the socially constructed view of nursing that under-recognised the contributions of nurses needs to be altered to highlight the fact that nurses ensure that health organisations function effectively (Paliadelis, 2008, 2013). Therefore, the error focus that is unmistakably embedded in education curricula, but driven by policy development and research

agendas that stem from focuses on risk aversion rather than facilitative features, must be counterbalanced by research that reminds us of the person-centred and holistic principles on which nursing practice is based.

7.4 Limitations of this study

The significance of this study is not diluted by the limitations listed below but rather contextualised for relevance. Commencing with the purposeful selection of participants, it is important to note that the educational foundations of healthcare professionals vary according to their scope and level of accountability. This study excludes healthcare practitioners other than RNs even though it is acknowledged that others do administer medications. Limiting the participants to RNs might be viewed as a limitation, but this was a deliberate choice as RNs are accountable for the practice of others who administer medications, such as ENs. Likewise, the study location is limited to adult acute care settings, but other clinical settings such as mental health or paediatrics use different protocols, while medication administration in aged care and the community differs significantly because of variations in prescriber documentation and the clients do not generally wear identification wristbands. Thus, it was decided to exclude settings other than acute care adult inpatient units where the use of the NIMC and the five rights framework are accepted practice.

As discussed in Chapter 4, due to organisational constraints, the appreciative inquiry methodology was adapted but the tenets of the theoretical framework were intact and the qualitative methods used were congruent with the constructivist philosophy. This study has sought to forge a new frontier for medication administration research by using appreciative inquiry to find affirmative medication administration experiences and practices and propose recommendations for further research.

7.5 Suggestions for further research

As discussed in Chapter 4, this study was not able to fully implement the complete 4D action research cycle for two reasons. First, the health service was implementing

a change management process at the same time as the data collection phases of this study. This was the priority for the health service staff and took precedence to this study. Second, doctoral research that is unfunded and time limited is restricted in the level to which the participants can be engaged. In the future, with organisational adoption and financial support, this study could be replicated and expanded to explore aspects of all disciplines that have a role in the medication administration process. The adoption of appreciative inquiry at the executive level of health organisations would attract and mobilise resources and enable the researcher to fully implement the 4D cycle of appreciative inquiry to medication administration and explore its application to shape new actions. Likewise, extending this study to the broader multidisciplinary medication management may highlight other affirmative attributes of the process and uncover positive contributions of other health disciplines.

Further exploration of this topic should include the patient, as recommended by the WHO (2011) and nursing studies (Duxbury, Wright, Bradley et al., 2010; Duxbury, Wright, Hart et al., 2010). Extending the study to include other healthcare professionals and patients would reinforce that nurses are not solely responsible for the safe management of medications. Involving patients in undergraduate education programs is also increasingly recognised as an effective interprofessional education strategy that promotes the rights and perspectives of the patient to contribute to clinical decision-making (H. Cooper & Spencer-Dawe, 2006; Duxbury, Wright, Hart et al., 2010; Henneman et al., 2010; Levett-Jones et al., 2012).

The medication education experiences and management strategies found in this study are related specifically to the individual participants. To broaden the application of appreciative inquiry to medication administration would require further studies of the other aspects of the process. For example, an appreciative inquiry to explore the attributes of the best approach to teaching medication administration to undergraduate nursing students might be a topic to consider, including academics, students, nursing industry stakeholders, other healthcare professional representatives, and accrediting authorities. It would certainly also benefit from representation from patients.

The clinical settings used in this study were limited to those that were familiar to the researcher and available in the facility, as is generally the case in unfunded and time-limited studies. The contextual descriptions of the settings support the transferability of the findings by allowing others to compare the congruence of these settings to their own. Replication of this study in other settings such as aged care, mental health and paediatrics would provide different insights into the positive practices occurring from the mosaic of medication administration contexts, offering rich descriptions of practices to support patient safety.

Finally, but most provocative, is the suggestion that research is urgently needed to review and revise the rights framework to ensure it is evidence-based and to better reflect the aspects of practice that have been illuminated in this study. This study has highlighted fundamental concerns with the relevance of the rights framework to the contemporary nursing practice of medication administration. It is my belief that, when the focus from which practice is developed seeks to identify problems with the practice, then problems will emerge. However, practice can be reframed with appreciative inquiry, as it attempts to co-create a shared consensus of a new future by exploring the strengths that are evident in practice (Cooperrider, cited in Quinn & Cameron, 1988).

In summary, the findings of this study, while not generalisable, may resonate with others who work in clinical environments where the Australian NIMC is used. The conclusions established may also have international relevance because of the globalisation of the five rights framework, despite the many variations. This study established that research of medication administration that views the practice to identify its functional and effective attributes can contribute new knowledge to nursing. It identified the core values of nursing, which are transferable to other contexts. The implications of this study of medication administration for nursing policy, practice and education were presented after considering current themes from the literature.

7.6 Closing remarks

The literature review in Chapter 2 found that research into medication administration focused on the role of the RN in QUM, patient safety, medication errors, medication management and clinical practice accountabilities. To contribute to the current body of nursing knowledge, appreciative inquiry was used in this study as the theoretical framework and methodology. Appreciative inquiry was described in Chapter 3 as a strengths-based style of inquiry and related to the qualitative methodology in Chapter 4. Unobtrusive observations, semi-structured interviews and researcher reflections were the methods used to collect the qualitative data necessary to meet the aim of this study. Chapters 5 and 6 presented a detailed appreciative analysis of the data collected in two phases and resulted in the identification of key themes.

As discussed in Chapter 5, the observation phase of the study highlighted that medication management processes involve one or more healthcare professionals, the environment and the patients. Important elements of RN medication administration practices were observed in a variety of settings. *Routine* medication administration was identified to be often *not routine* and nurses were found to practice person-centred care despite practical impediments encountered in relation to organisational and contextual factors. These observations were further illuminated through conversations with participants about their experiences in administering medications, as discussed in Chapter 6. Four major themes, *teaching, teamwork, tools* and *time*, emerged from the interviews. Specific practice strengths of the participants were discovered during each phase of data collection.

This final chapter presented three conclusions that resulted from this qualitative study related to the study aim and the literature. This study adds to the literature and showed that despite the complexities of medication administration, RNs draw on the educational preparation for practice to act in ways that provide safe and effective medication administration care to patients. The key finding from this study that adds to the literature is that nurses develop positive strategies that manage workplace complexities, interruptions and obstacles to facilitate effective and safe medication administration. An appreciative inquiry brings the medication management nursing interventions to light. The strategies and the stories of these participants have illuminated positive practices mostly untold until now. The implications for policy and practice were discussed and related to the core principles of the appreciative

inquiry approach to this study. In so doing, it was suggested that changes to policy and practice from a macro and micro perspective would better reflect reality through recognising the role of the RN. Finally, the limitations of this study were discussed and suggestions made for future research.

Finally, I would like to acknowledge the skill and expertise of the participants and applaud them for their unwavering focus on effectively meeting the needs of their patients. I thank them for their time and for the insights they shared that have allowed me to tell their untold story.

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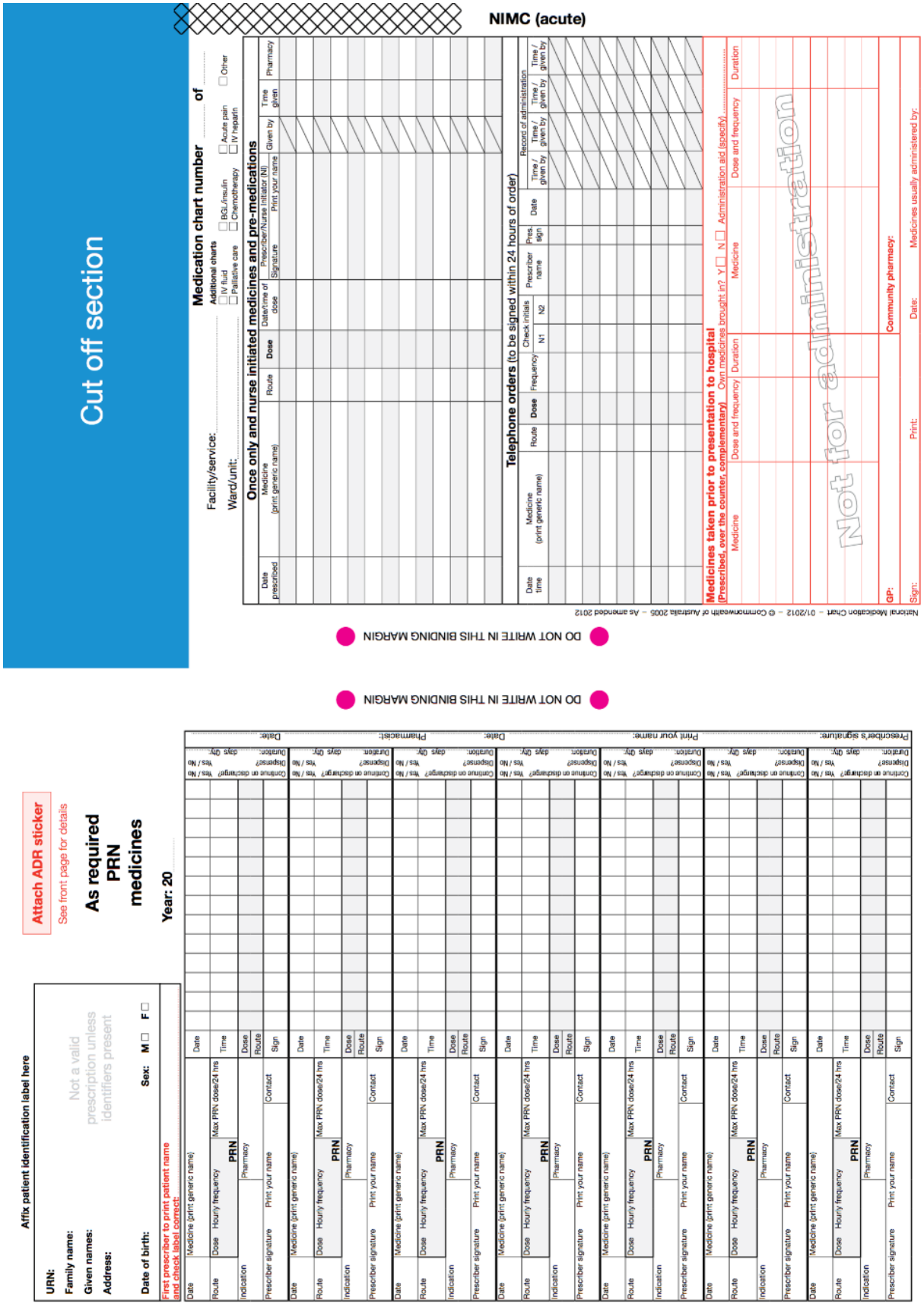
Appendices

Appendix A: Six rights for safe medication administration

Appendix B: NIMC



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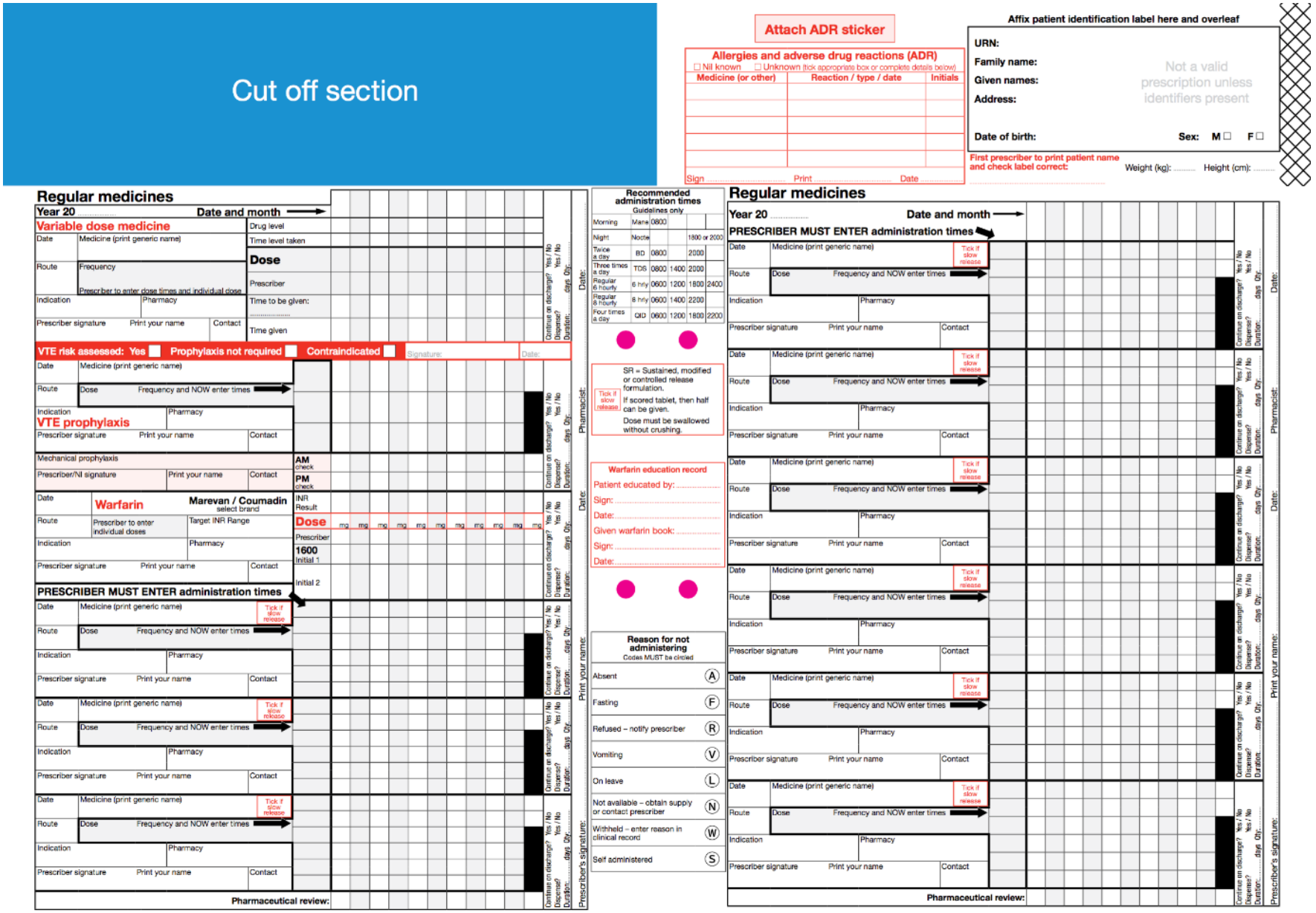

Attach ADR sticker

Allergies and adverse drug reactions (ADR)
☐ Nil known ☐ Unknown (tick appropriate box or complete details below)

Medicine (or other)	Reaction / type / date	Initials

Sign ..... Print ..... Date .....

Affix patient identification label here and overleaf

URN:
Family name:
Given names:
Address:
Date of birth: Sex: M☐ F☐

Not a valid prescription unless identifiers present

First prescriber to print patient name and check label correct:

Weight (kg): ..... Height (cm): .....

Regular medicines

Year 20 ..... Date and month →

Variable dose medicine

Date | Medicine (print generic name) | Drug level
Time level taken
Dose
Route | Frequency | Prescriber
Prescriber to enter dose times and individual dose | Time to be given:
Indication | Pharmacy
Prescriber signature | Print your name | Contact | Time given

Continue on discharge? Yes / No
Dispense? Yes / No
Duration: ..... days Qty: .....

VTE risk assessed: Yes ☐ Prophylaxis not required ☐ Contraindicated ☐ Signature: Date:

VTE prophylaxis

Date | Medicine (print generic name)
Route | Dose | Frequency and NOW enter times →
Indication | Pharmacy
Prescriber signature | Print your name | Contact

Mechanical prophylaxis
Prescriber/NI signature | Print your name | Contact

Warfarin — Marevan / Coumadin select brand

Date | Prescriber to enter individual doses | Target INR Range
Route
Indication | Pharmacy
Prescriber signature | Print your name | Contact

AM check
PM check
INR Result
Dose mg mg mg mg mg mg mg mg mg mg mg
Prescriber
1600
Initial 1
Initial 2

PRESCRIBER MUST ENTER administration times

Date | Medicine (print generic name) | Tick if slow release
Route | Dose | Frequency and NOW enter times →
Indication | Pharmacy
Prescriber signature | Print your name | Contact

Pharmaceutical review:

Date: Pharmacist: Print your name: Prescriber's signature:

Recommended administration times
Guidelines only

Morning	Mane	0800			1800 or 2000
Night	Nocte				
Twice a day	BD	0800		2000	
Three times a day	TDS	0800	1400	2000	
Regular 6 hourly	6 hrly	0600	1200	1800	2400
Regular 8 hourly	8 hrly	0600	1400	2200	
Four times a day	QID	0600	1200	1800	2200

Tick if slow release

SR = Sustained, modified or controlled release formulation.
If scored tablet, then half can be given.
Dose must be swallowed without crushing.

Warfarin education record
Patient educated by: .....
Sign: .....
Date: .....
Given warfarin book: .....
Sign: .....
Date: .....

Reason for not administering
Codes MUST be circled

Absent	A
Fasting	F
Refused – notify prescriber	R
Vomiting	V
On leave	L
Not available – obtain supply or contact prescriber	N
Withheld – enter reason in clinical record	W
Self administered	S

Regular medicines

Year 20 ..... Date and month →

PRESCRIBER MUST ENTER administration times

Date | Medicine (print generic name) | Tick if slow release
Route | Dose | Frequency and NOW enter times →
Indication | Pharmacy
Prescriber signature | Print your name | Contact

Continue on discharge? Yes / No
Dispense? Yes / No
Duration: ..... days Qty: .....

Pharmaceutical review:

Date: Pharmacist: Print your name: Prescriber's signature:

Appendix C: General invitation flyer

Appendix D: Information sheet for participants

University of New England

School of Health
Faculty of The Professions
Armidale NSW 2351
Phone 07 41943161
Fax 07 41943103
Email: jharri55@une.edu.au

INFORMATION SHEET for PARTICIPANTS

Research Project: Medication Administration – the phenomena of applying taught medication administration principles to practice. "When nurses dish out drugs"

I wish to invite you to participate in my research on above topic. The details of the study follow and I hope you will consider being involved. I am conducting this research project for my PhD at the University of New England. My supervisors are Dr Penny Paliadelis and Dr Glenda Parmenter of University of New England. Dr Paliadelis can be contacted by email at ppaliade@une.edu.au or by phone on 02 67733653. Dr Parmenter can be contacted by email at gparment@une.edu.au or by phone on 02 67733683 and the researcher, Julie Harris can be contacted by email at julie.harris@usq.edu.au or phone on 07 41943161.

Aim of the Study:

The aim of the study is to better understand the experience of registered nurses in the application of medication administration theory to their practice.

Time Requirements:

Then the researcher will accompany you during 1 nursing shift where the researcher will observe you administering medications. Then, you will be asked to attend an initial meeting of 1-1.5 hours for an interview with the researcher, at a time and location convenient you. The interview will be recorded. A possible second, shorter meeting may be required for verification of the recorded information once it is transcribed.

Observation:
The researcher will arrange to observe you during one of your nursing shifts where administration of medication is being performed. The researcher will take notes during this activity. You will have access to the notes and the opportunity to clarify any of the observations.

Interview:
The interview will last for approximately 90 minutes. There will be a series of open-ended questions that allow you to explore your recollection of your theoretical education of medication administration and how these are applied in practice. The interview will be digitally recorded. Following the interview, a transcript will be provided to you if you wish to see one. The researcher may ask to meet you to discuss the transcript if clarification is required.

School of Health
Faculty of The Professions
Armidale NSW 2351
Phone 07 41943161
Fax 07 41943103
Email: jharri55@une.edu.au

Any information or personal details gathered in the course of the study will remain confidential. No individual will be identified by name in any publication of the results. All names will be replaced by pseudonyms: this will ensure that you are not identifiable.

Participation is completely voluntary. You may withdraw from the project at any time and there will be no disadvantage if you decide not to participate or withdraw at any time.

It is unlikely that this research will raise any personal or upsetting issues but if it does you may wish to contact your local Community Health Centre 07 206666

The recordings will be kept digitally and stored on the password protected computer of the researcher. The transcriptions and observation field notes will be kept in a locked filing cabinet at the researcher's office for five(5) years following thesis submission and then destroyed.

Research Process:
It is anticipated that this research will be completed by the end of 2014. The results may also be presented at conferences or written up in journals without any identifying information.

This project has been approved by the Human Research Ethics Committee of the University of New England (Approval No. HE 10/121 Valid to 06/07/2011) and Queensland Health (Approval No. 10/QCQ 16 Valid to 04/10/2011)

Should you have any complaints concerning the manner in which this research is conducted, please contact the Research Ethics Officer at the following address:

Research Services
University of New England
Armidale, NSW 2351.
Telephone: (02) 6773 3449 Facsimile (02) 6773 3543
Email: ethics@une.edu.au

Thank you for considering this request and I look forward to further contact with you.

Regards

School of Health
Faculty of The Professions
Armidale NSW 2351
Phone 07 41943161
Fax 07 41943103
Email: jharri55@une.edu.au

Consent Form for Participants

Research Project: Medication Administration – the phenomena of applying taught medication administration principles to practice. "When nurses dish out drugs"

I, ..., have read the information contained in the Information Sheet for Participants and any questions I have asked have been answered to my satisfaction. Yes/No

I agree to participate in this activity, realising that I may withdraw at any time. Yes/No

I agree that research data gathered for the study may be published using a pseudonym Yes/No

I agree to the interview being digitally recorded and transcribed. Yes/No

....
Participant Date

....
Researcher Date

Appendix E: Episode tool

Time/duration: Set up behaviours: Bed Site: Route of administration: ☐ oral ☐ NG ☐ S/L ☐ nebs ☐ topical ☐ drops ☐ SC ☐ IM ☐ IV ☐ PICC ☐ Spacer Verifies patient ID by: ☐ asking name & DOB, ☐ allergies, ☐ Confirming against ID band and ☐ med chart. Verifies drug name: ☐ against chart, ☐ expiry date ☐ indication, ☐ storage, ☐ formulation. Ensures correct dose: ☐ checks calculation, ☐ frequency and ☐ abbreviations. Administers using ☐ correct route Confirms correct time by: ☐ checking clock, ☐ other drugs, ☐ previous dose. Consent gained through: ☐ questioning	Interrupted during procedure by: ☐ The Patient ☐ Another patient ☐ visitor ☐ Nurse ☐ Doctor ☐ Allied Health Professional (Physio, OT, Diet) ☐ Support staff (cleaner, kitchen, wards person) ☐ Other (phone, pager, emergency bell, monitor) Actions of the administering nurse when interrupted: ☐ stopped administration ☐ continued administration ☐ other Concluding behaviours:

Researcher Notes and reflections:
Impacting factors, Actions, Interventions, thoughts, feelings. Comments/ context issues:

Participant name:	
Date & Day of the week:	Ward Location:
Shift hours:	Number of Trend hours assigned:
Number of patients allocated:	Working as team or individual:
Number of admissions in allocated rooms:	Number of Discharges in allocated rooms:

Appendix F: Interview schedule

Interview Schedule

Medication Administration – the phenomena of applying taught principles to practice. "When nurses dish out drugs"

The interviews will commence with 2 broad questions and may cover topic areas below.

Opening questions:

Thanks for allowing me to observe you on your shift. Can you tell me about your experience of having me follow you and whether my presence made your alter your practice in any way.

Can you tell me about your experience when administering medications and how it reflects what you were taught?

Topic area: demographics

The purpose of discussion in this topic area is to obtain information about the training system used and years of experience.

- What was the educational system of your nursing training?
- How many months/years have you been administering medications as a registered nurse?

Topic area: Theoretical background

The purpose of discussion in this topic area is to obtain a general picture of the content of the education received and the methods of delivery.

- What do you recall about the content of what you were taught about medication administration?
- What do you recall about how you were taught medication administration?
- Were there any 'stand out' things that you recall about what you were taught?

Topic area: Application to practice

The purpose of discussion in this topic area is to obtain a general picture of the application of theory to practice.

- How do you apply what you were taught about medication administration to your practice?
- What goes through your mind when you are administering medications?
- How does your thinking affect your practice?
- How does your practice affect your thinking?

Topic area: Participant Issues

The purpose of discussion in this topic area is to allow the participant to include other information about medication administration theory and practice that may not have already been discussed.

- Is there anything else you would like to tell me about the education you received on medication administration or how you go about applying this to practice?

Appendix G: University ethics approval

Ethics Office
Research Development & Integrity
Research Division
Armidale NSW 2351
Australia
Phone 02 6773 3449
Fax 02 6773 3543
jo-ann.sozou@une.edu.au
www.une.edu.au/research-services

HUMAN RESEARCH ETHICS COMMITTEE

MEMORANDUM TO: Dr P Paliadelis, Dr G Parmenter & Ms J Harris
School of Health

This is to advise you that the Human Research Ethics Committee has approved the following:

PROJECT TITLE:	Medication Administration – The phenomena of applying taught medication administration principles to practice. "When Nurses dish out Drugs."
APPROVAL No.:	HE10/121
COMMENCEMENT DATE:	06/07/2010
APPROVAL VALID TO:	06/07/2011
COMMENTS:	Nil. Conditions met in full.

The Human Research Ethics Committee may grant approval for up to a maximum of three years.
For approval periods greater than 12 months, researchers are required to submit an application for renewal at each twelve-month period. All researchers are required to submit a Final Report at the completion of their project. The Progress/Final Report Form is available at the following web address: http://www.une.edu.au/research-services/researchdevelopmentintegrity/ethics/human-ethics/hrecforms.php

The *NHMRC National Statement on Ethical Conduct in Research Involving Humans* requires that researchers must report immediately to the Human Research Ethics Committee anything that might affect ethical acceptance of the protocol. This includes adverse reactions of participants, proposed changes in the protocol, and any other unforeseen events that might affect the continued ethical acceptability of the project.

In issuing this approval number, it is required that all data and consent forms are stored in a secure location for a minimum period of five years. These documents may be required for compliance audit processes during that time. If the location at which data and documentation are retained is changed within that five year period, the Research Ethics Officer should be advised of the new location.

[redacted]

Jo-Ann Sozou
Secretary

06/07/2010

A09/2596

Appendix H: Hospital ethics approval

Queensland Government

CENTRAL QUEENSLAND HEALTH SERVICE DISTRICT

Queensland **Health**

Enquiries: Rodney Boddice
Telephone: 07 4920 5765
Facsimile: 07 4920 6335
Email: rod_boddice@health.qld.gov.au
File Number:
Our Ref: \hrec\ett\10QCQ16_app
Your Ref:

Ms Julie Harris
Department of Nursing and Midwifery
Faculty of Sciences
University of Southern Queensland
PO Box 1149
PIALBA QLD 4655

Dear Ms Harris

HREC Reference No: **10/QCQ16**
Project Title: **"Medication Administration – the phenomena of applying taught principles to practice. When nurses dish out drugs'."**

Thank you for submitting the above project for ethical and scientific review. This project was first considered by the Central Queensland Health Service District Human Research Ethics Committee (HREC) meeting held on 22 July 2010.

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007), NHMRC and Universities Australia Australian code for the Responsible Conduct of Research (2007)* and the *CPMP/ICH Note for Guidance on Good Clinical Practice.*

I am pleased to advise that the Human Research Ethics Committee has granted approval of this research project. The documents reviewed and approved include:

Document	Version	Date
Application for Ethical Review of Negligible or Low Risk Research	Version 2	April 2009
Information Sheet for Participants		
Consent Form for Participants		
Flyer *Research Participation*		
Interview Schedule		
Curriculum Vitae of Julie Harris		

Please note the following conditions of approval.

1. Patients are to be informed of their passive participation in the study and be offered an option to decline if they wish.

2. The Principal Investigator will immediately report anything which might warrant review of ethical approval of the project in the specified format, including:

a. Unforeseen events that might affect continued ethical acceptability of the project. Serious Adverse Events must be notified to the Committee as soon as possible. In addition the Investigator must provide a summary of the adverse events, in the specified format, including a comment as to suspected causality and whether changes are required to the Patient Information and Consent Form. In the case of Serious Adverse Events occurring at the local site, a full report is required from the Principal Investigator, including duration of treatment and outcome of event.

3. Amendments to the research project which may affect the ongoing ethical acceptability of a project must be submitted to the HREC for review. Major amendments should be reflected in a revised online NEAF (accompanied by all relevant updated documentation and a cover letter from the principal investigator, providing a brief description of the changes, the rationale for the changes, and their implications for the ongoing conduct of the study). Hard copies of the revised NEAF, the cover letter and all relevant updated documents with tracked changes must also be submitted to the HREC coordinator as per standard HREC SOP. Further advice on submitting amendments is available from http://www.health.qld.gov.au/ohmr/html/regu/requ_home.asp

4. Amendments to the research project which only affect the ongoing site acceptability of the project are not required to be submitted to the HREC for review. These amendment requests should be submitted directly to the Research Governance Office/r (by-passing the HREC).

5. Proposed amendments to the research project which may affect both the ethical acceptability and site suitability of the project must be submitted firstly to the HREC for review and, once HREC approval has been granted, then submitted to the RGO.

6. Amendments which do not affect either the ethical acceptability or site acceptability of the project (e.g. typographical errors) should be submitted in hard copy to the HREC coordinator. These should include a cover letter from the principal investigator providing a brief description of the changes and the rationale for the changes, accompanied by all relevant updated documents with tracked changes.

7. The HREC will be notified, giving reasons, if the project is discontinued at a site before the expected date of completion.

8. The Principal Investigator will provide an annual report to the HREC and at completion of the study in the specified format.

9. The District administration and the Human Research Ethics Committee may inquire into the conduct of any research or purported research, whether approved or not and regardless of the source of funding, being conducted on hospital premises or claiming any association with the Hospital: or which the Committee has approved if conducted outside Central Queensland Health Service District.

HREC approval is valid for twelve (12) months from the date of this letter.

Should you have any queries about the HREC's consideration of your project please contact Rodney Boddice, HREC Chairperson on (07) 4920 5765. The HREC Terms of Reference, Standard Operating Procedures, membership and standard forms are available from http://www.health.qld.gov.au/ohmr.html/regu/regu_home.asp

You are reminded that this letter constitutes ethical approval only. You must not commence this research project at a site until separate authorization from the District Chief Executive Officer or nominated Delegate has been obtained.

A copy of this approval must be submitted to the District Research Governance Officer/Delegated Personnel with a completed Site Specific Assessment (SSA) Form for authorization from the CEO or Delegate to conduct this research at Central Queensland Health Service District.

Once authorization to conduct the research has been granted, please complete the Commencement Form (Attachment II) and return to the office of the Human Research Ethics Committee.

OFFICE:	POSTAL :	PHONE	FAX:
Level 2, CQU Building 36 East Street ROCKHAMPTON Q 4700	PO Box 871 ROCKHAMPTON	(07) 4920 5765	(07) 4920 6335

The HREC wishes you every success in your research.

Yours sincerely

Rodney Boddice
Chairperson, Human Research Ethics Committee
Central Queensland Health Service District
and
District Executive Director Clinical Support Services
CENTRAL QUEENSLAND HEALTH SERVICE DISTRICT

04/10/2010

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Level 2, CQU Building
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ROCKHAMPTON Q 4700

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SF11: Research Commencement Form

CENTRAL QUEENSLAND HEALTH SERVICE DISTRICT
HUMAN RESEARCH ETHICS COMMITTEE

NOTIFICATION OF COMMENCEMENT OF RESEARCH PROTOCOL

PROTOCOL NO: _____

PROTCOLO TITLE: _____

_____

_____

PRINCIPAL INVESTIGATOR: _____

This is to advise that the above research protocol commenced on:

/ /

Signature: ---------- Date: / /

Please forward to HREC when protocol commences

Appendix I: Queensland Health risk assessment and treatment matrix

Using the Risk Analysis Matrix

Risk Assessment is the estimation of the *likelihood* of the risk occurring and the *consequence* if it does occur.

Likelihood	Consequences				
	Negligible	Minor	Moderate	Major	Extreme
Rare	Low	Low	Low	Medium	High
Unlikely	Low	Medium	Medium	High	Very High
Possible	Low	Medium	High	Very High	Very High
Likely	Medium	High	Very High	Very High	Extreme
Almost Certain	Medium	Very High	Very High	Extreme	Extreme

Low Risk	Manage by routine procedures.
Medium Risk	Manage by specific monitoring or audit procedures.
High Risk Very High Risk Extreme Risk	This is serious and must be addressed immediately by the practice management.

The magnitude of the consequences of an event, should it occur, and the likelihood of that event occurring, are assessed in the context of the effectiveness of your existing strategies and controls.
Consequences and likelihood are combined to produce a level of risk.
Risk = Consequence x Likelihood