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The identification of the role and competencies of the graduate nurse in recognising and responding to the deteriorating patient in an acute ward environment: A mixed methods study

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Chapter 9

Discussion, Limitations and Recommendations

Introduction

The previous chapter presented the findings from the focus group interviews. This chapter will begin with a synthesis of meta-inferences from the combination of findings from the quantitative and qualitative phases of the study. The meta-inferences will be presented to answer the research questions and be linked to the current literature to provide comparisons. It will conclude with a discussion of the limitation key recommendations from the study.

Study aims and research questions

Within this study, a mixed methods design was employed to gather and analyse both quantitative and qualitative data, providing an in depth explanation of the role undertaken by the participants in their current clinical practice when managing the deteriorating ward patient. A mixed methods approach was required to answer the practical research questions of the study, reflecting the overarching pragmatic philosophy of nursing practice and its pluralistic nature.

The aims of the study were to firstly explore the role of newly graduated nurses in the management of the deteriorating ward patient and the factors impacting on the role. Secondly, it was aimed at investigating the clinical competencies used and the level of intervention nurses provide. Finally the study explored ways to improve the graduate nurses' capabilities in the management of the deteriorating ward patient. The research questions were:

1. What is the role of the newly graduated registered nurse in relation to the identification, assessment and management of the acutely deteriorating ward patient?
2. What factors impact the role of the graduate registered nurse in the management of the acutely deteriorating ward patient?
3. Which acute care competencies are important to the graduate registered nurses practice in the management of the deteriorating ward patient?
4. At what level are newly graduated registered nurses working clinically in relation to the key acute care competencies within the clinical setting?
5. How do we improve the capabilities of graduate registered nurses to assess and manage the acutely deteriorating ward patient?

The participants.

This study recruited GRNs working within the Perth metropolitan hospitals (both public and private), undertaking their first year of a graduate nurse training program. The graduate training program was overseen by the Department of Health, WA via the GradConnect program. Demographic information collected from the participants indicated that there was diverse representation from the GRN group across gender, age groups, area of speciality, university of undergraduate study and private or public hospital employment. The majority of participants were however, female, aged from 21 to 25 years old, who had completed their undergraduate nursing course within a Perth metropolitan university and working within a public acute hospital setting.

The Problem of Clinical Deterioration

Defining clinical deterioration.

As part of understanding the role of the GRN in clinical deterioration, it was important to ascertain their understanding of the concept of clinical deterioration and the meaning it held for the GRNs. The study found that the concept of clinical deterioration was well understood by the participants. There was almost universal

agreement amongst the participants of the key attributes involved in clinical deterioration, and the way that clinical deterioration could manifest itself in the ward patient. The vast majority of participants (93.6%) determined that clinical deterioration was seen as a progressive decline in the patient's physiological state. Almost all participants (95.4%) agreed, that this led to alterations in the patient's vital signs alongside a disruption in the patient's organ function.

The view of clinical deterioration held by the participants agreed with definitions provided within the literature. Four key elements of patient deterioration have been identified and these included an: evolving; physiological; predictable; and symptomatic presentation (Lavioe et al., 2014). The participants of the study also agreed with the following definition of clinical deterioration:

One who moves from one clinical state to a worse clinical state which increases their individual risk of morbidity, including organ dysfunction, protracted hospital stay, disability, or death" (Jones et al 2013, p. 1031).

The frequency of clinical deterioration.

Clinical deterioration of the ward patient was found to be a common event occurring on a regular basis within the hospital setting. An overwhelming majority (86.2%) of participants were regularly involved in assessment, monitoring and providing care to the deteriorating ward patient within their current clinical roles. The participants were not only commonly in contact with the deteriorating ward patient, but also often actively involved in recognising and responding to clinical deterioration within their clinical roles. These findings support the current literature that continues to identify clinical deterioration and serious adverse events as a common issue within the acute hospital setting (ACSQHC, 2008; ACSQHC, 2010; ACSQHC, 2017; CECNSW, 2008; Department of Health, 2009; NCEPOD, 2005; NICE, 2007; NPSA, 2007).

Whilst recent studies identified that both graduate and registered nurses contribute to the response provided to the deteriorating ward patient (Jones et al, 2009,

Odell et al, 2009; Liaw et al, 2011; Purling & King, 2012; Massey et al, 2014; Massey, Chaboyer & Anderson, 2017; Ratta, 2016) none attempted to quantify the frequency of contact between GRNs and the deteriorating ward patient within everyday clinical duties.

Suboptimal care.

Areas of concern relating to the timely management of the deteriorating ward patient were the considerable delays in the medical review and the initiation of treatment. These issues may suggest an ongoing problem with “suboptimal care” and concurs with other studies which argue that it is a common problem in the hospital setting (McQuillan et al, 1998; NCEPOD, 2005; NICE, 2007; ACSQHC, 2010; Quirke et al, 2011). Similarly, GRNs were concerned about other issues associated with suboptimal care such as delays in diagnosis, treatment or referral, along with poor assessment and inadequate or inappropriate patient management (Franklin & Mathew, 1994; Hodgetts et al., 2002; McGloin et al, 1999; Quirke et al, 2011; Schein et al., 1990; Seward et al., 2002).

Demographics & the problem of clinical deterioration.

Participants employed within the public hospital system more frequently encountered the problem of clinical deterioration. This finding may be associated with the nature of the patients entering the public hospitals, often via the Emergency Department, and often requiring urgent care and needing specialist services for acute medical and surgical conditions (AIHW, 2017). These public hospital patients present with higher levels of acuity and comorbidity than the elective patients accessing the private hospital services.

The participants working within the lower acuity speciality areas, such as Aged Care or Rehabilitation wards, had less frequent contact with the deteriorating ward patient despite those areas having an overall increase in morbidity and mortality for their patient groups (AIHW, 2009). This issue may be explained by the risk of “futility of treatment” for a more frail and elderly population of patients as seen within the

lower acuity areas. Often frequent monitoring and the provision of a rapid response team are not appropriate for patients in the aged care or rehabilitation units as they often have multiple comorbidities and there is a likelihood of poor outcome from acute clinical intervention (Hogan et al, 2012).

Role of the GRN in Clinical Deterioration

The participants undertook three broad functions in managing the deteriorating ward patient. These were: the assessment, monitoring and detection of clinical deterioration; activating the RRS and calling for help; and providing basic initial intervention prior to medical review.

Assessment and monitoring of the deteriorating patient was the major function of the GRNs current clinical role and this role was supported in the literature (Aiken et al., 2003; Hogan, 2006; Kisiel & Perkins, 2006; Massey & Meredith, 2010). To facilitate the recognition of clinical deterioration in the ward patient, the GRNs predominantly utilised vital sign measurements. At times the GRNs relied upon more complex physical assessment, including devices such as ECG recording.

The use of vital sign data provided the GRN with patient data that could be used in conjunction with the RRS tracking system for risk stratification of the deteriorating patient. The majority of GRNs (67%) identified that they were responsible not only for the recording of vital signs, but also for the interpretation of the monitored data. The GRNs indicated that abnormal physiology and altered vital signs were extremely useful in providing an objective way to recognise and distinguish the clinical deterioration in their ward patients. The severity of abnormality in the vital signs were important in the determination of the patient's level of risk, and provided the GRNs with evidence to justify their activation of the RRS in the ward area.

These findings agreed with previous studies, which suggested that nurses are responsible for the recognition of physiological abnormalities and the comprehension of their significance (Clarke, 2004; Considine & Botti, 2004; Hogan, 2006; Kisiel & Perkins, 2006; Massey & Meredith, 2010). Also, the findings are consistent with the

literature suggesting registered nurses commonly report that changes in the patient's vital signs provide quantifiable indicators that the patient is deteriorating physiologically. Nurses flag deterioration to medical staff based on these findings in order to elicit approval for escalated responses (Andrews & Waterman, 2005; Gazarian et al., 2010). This action enabled the GRNs to make clinical decisions as to the level of monitoring and the frequency of monitoring required.

The regularity of monitoring undertaken by the GRNs, along with importance placed on vital signs, conflicted with current literature. For example several studies suggested the taking and recording of vital signs have become devalued by registered nurses, and often viewed as ritualistic and of low priority (Cardon-Morell et al., 2016; Hogan, 2006; Wheatley, 2006). There have also been a number of studies indicating that vital sign monitoring and physical assessment are poorly performed and inconsistently recorded by registered nurses; often relying on clinical judgement to identify when physical assessment is required (Cardon-Morell et al., 2016; Goldhill et al., 2005; Van Leuvan & Mitchell, 2008). In contrast however, GRNs in this study highly valued, and regularly undertook, vital sign observation in the acutely unwell ward patient. They used the data to make clinical judgments, to calculate the risk of serious adverse events and to determine the appropriate management of the deteriorating ward patient.

Likewise, the GRNs often used subjective physical assessment cues and intuition as a means of identifying clinical deterioration. An amalgamation of both objective and subjective data was used to determine a patient's condition. These findings concurred with previous studies, which suggested ward nurses appear to consider both subjective and objective signs of deterioration (Cioffi, 2000; Lavoie et al., 2016; Skrifvars et al., 2006).

Calling for help/activate RRS.

The GRNs in this study understood the importance of calling for help and importantly, were willing to call for help quickly when deterioration was detected. Significantly, the majority reported that it was within their role to activate the RRS, calling for the

MET team. They also identified it was their responsibility to alert senior nursing staff and confirmed it was their role to alert medical colleagues to a deteriorating patient. Conversely, multiple studies have highlighted that nurses are often reluctant or unwilling to activate the RRS and call for help (Crispin & Daffurn 1998; Hillman et al., 2015; Jones et al., 2006; Massey et al., 2015; Salamonson et al., 2006; Santiano et al., 2007 Subbe & Welch, 2013; Tee et al., 2008).

Providing initial intervention.

A key function undertaken by the majority of the GRNs in their clinical practice was the provision of initial intervention to the deteriorating ward patient prior to medical team review. Providing initial intervention, however, created anxiety and concern amongst many GRNs. The confidence to provide initial intervention prior to medical review was low, with nearly half the GRNs (45%) feeling less confident to intervene prior to medical review of the patient.

The GRNs felt more confident providing emergency or life-saving interventions, such as airway manoeuvres, or supplemental oxygen to support the deteriorating patient prior to medical review. This level of emergency intervention goes beyond the expectations provided by the ACSQHC, who mandated that nurses managing the deteriorating patient have the skills to provide cardiopulmonary resuscitation to a patient in cardiac arrest (ACSQHC, 2010; NSQHS, 2012). The findings of this study supported the literature suggesting that registered nurses do provide further basic emergency intervention prior to the arrival of the MET (Considine & Botti, 2004; Donohue & Endacott, 2010).

Demographics & role.

It was apparent that GRNs working within the private hospital setting had a number of differences in their roles when compared to their colleagues working within the public hospital setting. The GRNs working within private hospitals had less autonomy in decision making, regarding calls for help, than their colleagues in the public sector. They were also more reluctant to initiate treatment prior to medical staff review. This

difference could be associated with the ward culture and the medical hierarchy within the private hospital setting. Private hospitals have less junior medical staff covering the ward areas thus leaving the decisions and interventions to an on-call senior medical consultant. The GRNs were often reluctant to contact such senior staff directly, particularly out-of-hours, for fear of being reprimanded from both the medical consultant and senior nursing staff.

Significantly, GRNs in private hospitals were less likely to view the detection of the deteriorating ward patient as their responsibility. They were often more reluctant to provide emergency interventions including airway management with adjuncts along with a reluctance to provide basic life support interventions such as automated external defibrillation. Again there may be a number of reasons for these differences including hospital or ward culture, policy and procedures, education and training. These concerning discrepancies require research to provide an explanation that could lead to positive patient outcomes.

Acute Care Competencies

Defining competence.

The GRNs defined “competency” in terms of a practical ability, a set of well-developed skills that were supported by knowledge and education that facilitated safe and independent clinical practice. It was apparent from the findings that GRNs placed significant value and importance on clinical competency. All GRNs indicated that being clinically competent was an extremely important aspect of their practice. Being competent was something that the GRNs aspired to, it was seen as fundamental to their development and to safe clinical practice.

The interpretation of competence and the importance placed on being competent by the GRNs supported the current literature. Studies identified the possession of adequate knowledge, skills and attitudes for a particular purpose as core themes of competency (Alspach, 2008; Kendall-Gallagher & Blegen, 2009; Watson, Stimpson, Topping, & Porock, 2002; Yanhua & Watson, 2011). The literature reported

competency as a crucial attribute to ensuring quality and safe nursing care (Kendall-Gallagher & Blegen, 2009).

Validation of acute care competencies.

Acute care competencies were important and applicable to the GRNs practice with all five of the competency domains being identified as necessary to clinical practice. The entire 79 UKDH (2009) acute care competencies, were used by the majority of GRNs managing the deteriorating ward patient.

Twenty competencies that focused broadly on three key themes: assessment and monitoring; recognising deterioration; and calling for help were identified as crucial to the GRN role. Specifically, these key competencies addressed the assessment of airway and vital signs including: respiratory rate; oxygen saturation; heart rate; blood pressure; conscious level; and urine output. Alongside, these key competencies were the assessment of blood glucose, the timely recognition of clinical deterioration, and calls for urgent help. The frequent utilisation of these key competencies supported the literature describing assessment and monitoring of the acutely unwell patient as a key role for the registered nurse (Clarke, 2004; Massey & Meredith, 2010).

Interestingly, across the five competency domains, the “Patient Centred Care, Team Working and Communications” domain (Domain 5), was reported overall as the most important and frequently utilised overall by GRNs. The competencies within Domain 5 centred on: conveying clinical urgency; calling for urgent help; documentation; accountability and mitigation of risk. These competencies again supported the findings concerning the main role espoused by GRNs.

Surprisingly, the “Airway, Breathing, Ventilation and Oxygenation” domain (Domain 1) was least important of the five domains. This was contrary to studies highlighting the importance of prioritising airway and breathing in the initial approach to the management of the deteriorating patient (Liaw et al, 2011; Smith et al, 2002; Thim, Krarup, Grove, Rohde, & Løfgren, 2012). A number of the competency groups

within Domain 1 did, however, involve more technical interventions, addressing more complex respiratory tasks, often involving specialist knowledge. The high level of complexity within the domain may explain why the GRNs did not regard the Domain 1 competencies with the same importance as other domains. The GRNs were mindful of their capabilities and scope of practice, appropriately identifying competencies that were beyond their level of competence. Competencies linked to assessment, monitoring, communication, calling for help and emergency intervention, were regarded as the most important and frequently utilised in managing the deteriorating ward patient. More technical or specialist competencies that required complex intervention were of less importance to the GRNs.

Initial assessment and intervention to provide life-saving intervention was an accepted and frequent part of GRNs role. This supported the assertions from several government health organisations recommending that healthcare staff, including registered nurses, should have the ability to assess the acutely ill patient, interpret abnormal physiological parameters, and initiate appropriate early interventions including life-sustaining measures to address concerning patient deterioration (ACSQHC, 2010; IHI, 2004; NICE, 2007; Department of Health, 2009). Effective observation of vital signs and initiating prompt intervention to ward patients is often the key to providing appropriate and timely management to the deteriorating patient (NICE, 2007; Odell et al., 2009).

Level of Working

As mentioned in the literature review, the “chain of response” (COR) framework (see chapter 2), provided a set of five sequential roles. Each role had broadly defined functions to be undertaken by healthcare staff working at different levels of complexity, in relation to acute care competencies. This framework identified the complexity and level of work undertaken by the GRN in relation to the 79 acute care competencies (Department of Health, 2009).

The GRNs were at times, working across a number of COR roles when managing the deteriorating patient. These roles ranged from level 1: “Non-Clinical

Support” to, to level 5: “The Secondary Responder”. Significantly, the most frequent COR role undertaken by GRNs across competency groups was level 3: “The Recogniser” role. This was a major finding of the study, and the first time the GRN level of functioning in relation to management of the deteriorating patient had been determined. The primary function of COR “The Recogniser” role was the monitoring of the patient’s condition along with the interpretation of the data collected and the recognition of deterioration (Department of Health, 2009). The primary role of GRNs was the assessment, monitoring, detection and call for help in the clinical deterioration of a patient.

Despite the perceived differences in acuity of the clinical areas, the GRNs functioned at a similar COR level 3 across all clinical speciality areas when managing the deteriorating ward patient. The COR level 3, supported the primary role of the GRN in managing the deteriorating patient. It focused upon assessment, monitoring, recognition and calling for help. At times, however, the complexity and COR level of working increased, often to accommodate the GRNs undertaking of more complex tasks associated with the deteriorating patient’s need for intervention with airway, breathing and circulatory support.

No other studies could be located within the contemporary literature that attempted to explore or clarify the complexity or level of work undertaken by GRNs in their clinical management of the deteriorating patient. Neither could any be identified that explored the COR or the acute care competencies advocated by the UKDH. This study however, supports the generic recommendations made for an educated and suitably skilled healthcare workforce to provide appropriate care for the deteriorating patient (ACSQHC, 2010; McGloin et al., 1999; Schein et al., 1990; Smith et al., 2006; Story et al., 2004; NICE, 2007).

Level of Working & Demographics.

The area of speciality in which a GRN worked, influenced the COR level and the complexity of functioning for specific acute care competency groups within that clinical area. As an example, GRNs working in critical care identified interventions

related to Domain 1 (Airway, Breathing, Ventilation and Oxygenation) competencies as very important to their clinical practice, and undertook these competencies at a higher COR level in comparison to other areas of speciality. This finding may be influenced by the nature of the patients' condition within this area, many of whom often require advanced airway management and ventilatory support.

The nature of the area of speciality, the patients, and medical issues commonly dealt with influenced the COR level of working for some acute care competencies. This influence may be due to the experience gained by the GRNs in the areas of speciality, along with the development of competence and the support provided to deal with familiar problems.

Working within a private hospital setting influenced the COR level of working for GRNs. They often worked at lower COR level of complexity. A number of factors which have been eluded to previously may have influenced the role of the GRNs in identifying and managing the deteriorating patient within a private hospital.

Factors Impacting GRN Role

A number of factors adversely affected the capacity of the GRNs to undertake their role in managing the deteriorating ward patient. These factors included: lack of knowledge and competence; seeking permission; and scope of practice.

Lack of knowledge & competence.

Participants raised concerns regarding a lack of knowledge and competence to undertake the GRN clinical role in managing the deteriorating patient. These concerns centred on the knowledge required to make decisions, and the provision of clinical interventions. Competence influenced confidence levels and the course of action taken to manage the deterioration patient. This factor concurs with the dominant view that GRNs may lack the requisite knowledge and are inadequately prepared for the transition from student to graduate nurse (Clark & Holmes, 2007; Cubit & Lopez, 2012; Missen et al., 2010; Newton & McKenna, 2007). Graduate nurses need to be able

to practice safely and competently, utilising knowledge from their undergraduate education to achieve the required patient outcomes (Hickey, 2009; Meechan et al., 2011).

Contrarily, however, the majority of GRNs in this study identified that their undergraduate nursing program had provided the knowledge required to assess and monitor the deteriorating patient. It was, however, the lack of acute care clinical placements as an undergraduate student that prevented the development and consolidation of knowledge in the majority of GRNs. This discrepancy could be seen as leading to inadequate preparation of the graduate nurse and a lack of practice application of theory (Hickey, 2009).

Seeking permission.

A further factor that influenced the GRN in managing deteriorating patient, was seeking permission from senior nurses to act. Previous studies have highlighted the requirement for senior support of the GRNs, when facing adverse clinical events. An inability to process information has been associated with overwhelming complex clinical situations (Goode et al., 2013, Ranse & Arbon, 2008; Della Ratta, 2016).

The findings of the study, however, were contrary to the current literature. Whilst the graduates sought permission to act frequently, they had a clear understanding and comprehension of the patient's situation, along with the initial treatment required to manage the deteriorating patient. The GRNs often did not seek permission for the purpose of requiring clinical support. Instead the GRNs often sought permission to provide the intervention so as not to upset the hierarchy of the ward. Seeking permission to intervene occurred across all clinical speciality areas, in both public and private hospital settings.

The need to seek permission to intervene was influenced heavily by the ward culture and the hospital hierarchy. These two factors contributed significantly to the GRNs being fearful of "getting into trouble" for not seeking permission prior to taking action. This apprehension often led to anxiety and stress in many of the GRNs which

affected their willingness to act. Studies have linked the culture of the ward to a fear of being reprimanded and humiliated for taking action or activating the RRS (Cioffi, 2000; Massey et al., 2014, Tee et al., 2008).

Taking action has been closely linked to self-efficacy or a belief in one's own capability to perform a particular behaviour or role (Bandura, 1977). Self-efficacy and self-confidence are interrelated, the more self-confident the person is, the higher the level of self-efficacy, and the more inclined the person is to act (Pike & O'Donnell, 2010). High levels of stress and anxiety are linked with low self-confidence and low levels of self-efficacy. This in turn has been correlated with poor clinical reasoning skills and poor performance of nurses (Munroe et al., 2015). Nurses involved in the management of the deteriorating patient have identified that negative emotions such as stress, anxiety, panic and uncertainty have impacted their decision making and resulted in a reluctance to activate the RRS and call for help (Cioffi, 2000; Massey et al., 2015).

Scope of practice.

A further factor creating negative emotion and limiting capabilities amongst the GRNs was uncertainty related to their "scope of practice". The notion of "working outside of their scope of practice" created uncertainty, anxiety and stress with regards to the provision of intervention to the deteriorating patient. These issues reinforced the need to seek permission to intervene. The stress associated with the perception of legal and professional consequences of working outside of their scope of practice, often changed the way the GRNs acted. These findings concurred with studies that suggested that anxiety and stress associated with the perception of legal consequences changed the way nurses practice, making them fearful, reluctant to make decision and at times unwilling to take action for fear of getting in trouble (Savage et al., 2011).

The GRNs understanding of their scope of practice and inconsistency of expectations from senior staff along with negative emotions often clouded the need to seek permission to act. Complex interventions created uncertainty, despite GRNs having knowledge and skills to competently undertake the appropriate tasks. These

tasks, however, were viewed by the GRNs as outside of the “scope of practice” and the responsibility of senior staff. Previous studies identified similar beliefs in that nurses who are uncertain of their scope of practice defer decision-making and tasks to staff with higher authority as a way of minimizing the risk of legal consequences (Birks et al., 2016; Savage et al., 2011).

Lack of clarity & consistency.

The lack of clarity regarding the expected role of the GRN in managing the deteriorating patient was a factor impacting the performance of the GRNs. Uncertainty regarding the expectations of senior nursing and medical staff, created hesitation and negative emotions such as stress and anxiety. The lack of role clarification has been highlighted as a significant problem, impacting both experienced and new graduated registered nurses (Hamric, Spross & Hanson, 2009; Lu et al., 2008; Della Ratta, 2016). A lack of role clarification can often lead to role ambiguity, indeterminate expectations, diffuse responsibilities and uncertainty about sub-roles to be undertaken (Horsburgh, 1989; Kramer et al., 2013; Schuler et al., 1979).

The expectations and attitudes of senior nursing and medical staff were at times, inconsistent and unclear. This created confusion amongst the GRNs and led to further stress and uncertainty. Role stress occurs when there is incongruence or disparity between an individual's perceived role expectations and the actual achievements whilst performing the specific role (Chang & Hancock, 2003; Lambert & Lambert, 2001).

In summary, many factors including the need to seek permission, uncertainty about scope of practice, and a lack of clarity and consistency led to the GRNs experiencing negative emotions including anxiety, uncertainty and stress. The impact of negative emotions adversely affected the GRNs willingness to make decisions and to provide interventions to the deteriorating patient. These factors are concerning as the deteriorating ward patient might, in some cases, experience delays in assessment and treatment resulting in suboptimal care (Franklin & Mathew, 1994; Hodgetts et al., 2002; McGloin et al., 1999, Schein et al., 1990; Seward et al., 2002).

Improving the Capabilities of GRNs

An aim of the study was to ascertain from the GRNs, ways to improve their capabilities in the management of the deteriorating ward patient. A number of common suggestions were provided by the GRNs and are outlined below.

Improving competency.

Clinical competence was viewed by GRNs as an essential component, providing the capabilities required to function in their role. To guide and develop clinical competence in the assessment and management of the deteriorating patient, the key strategy advocated by the GRNs was the use of acute care competency standards (ACCS) in both undergraduate and graduate programs. The participants argued for the use of ACCS supported by a formal competency assessment process applied within the clinical setting. The participants suggested that ACCS would provide clarity, consistency and constructive feedback to improve their clinical capabilities.

This approach to improving competency is supported in the literature. Nursing competence has long been associated with the technical aspect of performance, and used to measure the skills and knowledge of nurses in the development of more advanced roles (Axley, 2008; Halcomb et al., 2016). Using competency standards enabled clinical competence to be attained via practical experience, the integration of theory into practice, and the development of critical thinking and team-working (Cubit & Leeson, 2009; Levett-Jones & FitzGerald, 2005). The role clarity provided by ACCS, was seen by the GRNs as a means to delineate their scope of practice, and provide assurance that they were working within acceptable legal and professional boundaries. It would also establish consistency amongst senior nursing and medical staff about the GRNs role.

Education & knowledge.

Targeted education and training were advocated by the GRNs as a way to redress their clinical deterioration knowledge deficits. This suggestion agreed with numerous

studies supporting the need for further education and the development of knowledge in nurses to manage the deteriorating patient (ACSQHC, 2014; Buist et al., 1999; Endacott et al., 2007; NICE, 2007; Wood et al., 2004). The GRNs advocated an increased focus on clinical deterioration within the undergraduate nursing programs. This focus could be supported by appropriate scenario based learning, simulation training and clinical placements. Alongside this suggestion, the GRNs recommended the use of ACCS and clinical competency assessment.

The GRNs argued for specialised education and training within the graduate programs, focusing on the evidence base and rationale for the RRS, the use of the early warning scoring system and the role of the MET team. They argued that education should take place within the first few months of entering their graduate year. Overwhelmingly, the GRNs supported the use of multidisciplinary team, clinically focused, scenario based training, with high fidelity simulation. These strategies were supported by the current literature (Buckley & Gordon, 2011; Liaw et al., 2011; Odell et al., 2009). Importantly, GRNs agreed that regular education and training should include both theory application to the clinical area, to improve their competence in the management of the deteriorating patient.

Mentorship.

Although some participants had mentors, it was not formalised. It was suggested that this be rectified by the formal allocation of mentors. The literature suggested that a carefully chosen mentor-mentee matching improves the success of a mentoring program (Tiew, Koh, Creedy, & Tam, 2017). In addition, the GRNs argued the need for protected time to work with their allocated mentor(s) and to have regular feedback in regards to their progress and performance would be beneficial.

Clinical support.

To enable a supportive and inclusive ward culture and clinical environment, the GRNs recommended the use of multidisciplinary team critical event debriefing sessions as a way to improve professional communication, role clarity and performance. The

opportunity to debrief as a team was seen by the GRNs as a means to improve team-working, understand the multidisciplinary team roles, the decision making processes, alongside identifying lessons learnt and points for improvement. This view agrees with the literature suggesting that debriefing following a clinical event encourages communication, enabling participants to reflect, improve future performance, team working, and patient outcomes (Buykx et al., 2011; Shinnars, Africa, & Hawkes, 2016).

Clinical support from the ward-based staff development nurse (SDN) was also identified as important to the GRNs developing their competencies. They recognised the need to spend more time working alongside the SDN to support their practice. A formal process of allocated time for each graduate to meet and work with the SDN was advocated to replace what was often ad hoc. This support would provide structure and the opportunity for equity in access to the SDN for all GRNs within the clinical areas.

Conclusion of Discussion

There remains a significant gap within the literature related to defining or exploring the role of the GRN in the detection and management of the deteriorating ward patient. Without clarification of the role to be undertaken by the registered nurse, it is very difficult to decipher the required focus for competence and the level of working and complexity needed to undertake the role. Generic recommendations provide little clarity in this matter. No studies could be identified that specified the expected or actual role or functions undertaken by the GRNs in the management of the deteriorating patient.

The main purpose of this study was to redress this gap within the literature, identifying the role undertaken by the GRN in their current clinical practice. As far as is known, this is the first study to determine the specific role undertaken by the GRN in the management of the deteriorating patient. This study has provided the first quantifiable evidence that assessment, monitoring and recognition of the deteriorating patient, is a regular and ongoing part of the GRNs clinical role. The findings of the study also provide evidence that GRNs are actively utilising acute care competencies

within their clinical practice and are prioritising and selecting pertinent competencies that focus upon their main role to assess, monitor, detect and alert others to the deteriorating patient in their clinical practice. This study has provided insight into the level of working and the complexity of the role undertaken by the GRN in managing the deteriorating ward patient. It is hoped that it will provide some clarity as to the role undertaken, the appropriate competencies required, and the level of complexity needed by future GRNs.

The data collected for the study, sampled GRNs working within the Perth metropolitan area of Western Australia. The recommendations, however, are applicable to all health care providers, health care facilities, universities, nursing boards and health departments within all the States and Territories of Australia. The broad findings and recommendations may also have application internationally.

Recommendations of the Study

The findings of the study clearly demonstrate that GRNs are involved in recognising and responding to the deteriorating ward patient. To undertake this role, the GRNs utilise specific acute care competencies to provide assessment and management to the acutely unwell patient. Clearly, a number of factors have influenced the GRNs in their role and they have identified strategies for improving their nursing practice. The recommendations of this study are based upon these findings in an effort to ensure better patient outcomes.

The recommendations of this study include:

- A national statement clarifying the broad expectation of the registered nurses' role in the management of the clinically deteriorating ward patient. It should include: monitoring; detecting; alerting; and the provision of emergency intervention.

- A national recommendation for the adoption and use of a comprehensive set of acute care competency statements to develop competency amongst all registered nurses managing the deteriorating ward patient.
- The incorporation of the acute care competency statements into both undergraduate nursing education programs and the graduate nurse programs, supported by competency based assessment within the clinical practice setting and appropriate acute care placements.
- The provision of additional acute care education and training within both undergraduate nursing education and graduate nurse programs addressing: the common causes of clinical deterioration; the signs of clinical deterioration; the rationale for the RRS and MET; and the use of the track and trigger early warning systems.
- The provision of a formal mentorship program for all graduate nurses working within the hospital setting, including the allocation of appropriate mentors and protected time to meet.
- The provision of regular hospital based multi-professional training using high fidelity simulation, focused on the recognition, initial assessment and response to the clinically deteriorating ward patient.
- The use of ward-based, facilitated, multi-professional debriefing sessions following the occurrence of adverse clinical events within the ward area.
- Greater consultation and cooperation between nursing regulatory boards, tertiary education providers and health care providers as to the expected role of the GRN and their scope of practice, in the management of the deteriorating ward patient.
- Further research into the expected roles and competencies of the registered nurse and other allied and medical staff in the management of the deteriorating patient.

Limitations

The main limitation for the study was the reduced response rates for the two questionnaires, Q-Role and Q-Comp. Whilst the number of responses to the

questionnaires was enough to provide valuable data and insight into the graduate nurse's role, an increased response rate may have provided further useful information and could be generalised to a larger population.

A further limitation of the study was that GRN sample was confined to the Perth metropolitan area. Ideally a sample including GRNs from regional and rural WA, alongside GRNs from all States and Territories within Australia could have provided further valuable data and inclusive representation. It may be the case that internationally, the preparation and characteristics of the GRNs are similar, and the findings and recommendations, therefore, pertinent to those countries.

Chapter Summary

The study has provided further support for the use of a mixed methods approach to comprehend and explain the role of the GRN in the management of the deteriorating ward patient. It has significantly added to the body of knowledge within the current contemporary literature.

Within this chapter, the findings of both quantitative and qualitative data have been synthesised to produce meta-inferences answering the research questions. The discussion chapter has incorporated the current research evidence in the presentation of the meta-inferences, to provide a comparison of the study's findings with the current contemporary literature.

This study has significantly contributed new knowledge concerning the graduate nurse and the clinically deteriorating patient. The study has provided an evidence based account of the role of the graduate registered nurse in the management of the deteriorating ward patient and new understanding of the competencies utilised to by the GRN, and the complexities and challenges faced by the GRN in undertaking this role.

The chapter has provided recommendations from the findings of the study for all Health care providers, Health care facilities, Universities, Nursing Boards and Health Departments within Australia. Finally, the chapter has provided an account of the key limitations of the study.