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**A Realist Exploration of Emergency Nurses' Role Transition
in a Major Emergency Department in Indonesia**

Arcellia Farosyah Putri

Doctor of Philosophy

The University of Edinburgh

2020

Dedication

*To the amazing seniors,
thank you for crafting the route,
making the journey easier for us.*

*To the enthusiastic juniors,
thank you for the positivity and may we carry on walking in this route,
take pride in the legacy that our seniors have left behind.*

*To the inspiring people who make differences
in emergency nursing and services,
may we continue to support each other,
find solutions and celebrate achievements together.*

Here is to you all.

Declaration

I declare that this thesis was composed by myself, that the work contained herein is my own except where explicitly stated otherwise by reference, and that this work has not been submitted for any other degree or professional qualification elsewhere.

Arcellia Farosyah Putri

November 2020

Abstract

Introduction: Advanced practice nurses' roles in emergency departments (ED) have evolved, particularly in high-income countries. As these roles have developed, challenges such as resistance to change and a blurring of professional boundaries were met. In the later phases of role development, recognition and acceptance were achieved, although some disparities in standards still exist globally. New regulations, training, and education have been established alongside this emerging role. Previous studies into these roles have shown positive impacts on key performance indicators (KPIs) of the ED, such as decreased patient waiting times, increased levels of patient satisfaction, and cost-effectiveness. However, there is little understanding of the complexity of these advanced practice nurses' roles, how they work, for whom, and under what circumstances. In Indonesia, there is little evidence regarding the development of emergency nurses' roles due to a lack of published studies. Therefore, this current research initiative was designed to understand the contributing factors that shape emergency nurses' roles in Indonesia using a qualitative realist approach.

Methods: The research was conducted in a major emergency department in Indonesia. Data were collected from non-participant observation of activities and interactions of thirteen participants in the ED, who consisted of nurses and physicians, eighteen interviews involving fourteen participants took place; the interviewees included emergency nurses, physicians, managers, and representatives of professional organisations. Data from policy documents also contributed. Realist data analysis was conducted to elicit realist programme theories (RPTs) and develop a middle-range theory (MRT) to identify and explain context-mechanism-outcome (CMO) interactions around the development of emergency nurses' roles. Following data analysis, two realist programme theories, explaining what is happening around emergency nurses' role shaping were developed: (1) knowledge

brokering and (2) role-relationships. Furthermore, the transition theory was configured as the middle-range theory grounded from the data.

Findings: This study found that the emergency nurses' roles in the ED are under transition. The findings suggest that there are two focused aspects of change in emergency nurses' role transition: (a) transformation of knowledge and skill and (b) role-relationships of emergency nurses. Such transformation is influenced by various contexts existing at different system levels. The knowledge brokering process both at the individual and collective levels is revealed as the main underlying mechanism informing the emergency nurses' role transition. This process is central in order to overcome disabling factors in the contexts and push forward the transition. Knowledge brokering operates within the engagement levels of involved individuals, departments, institutions, and wider organisations in emergency nurses' role transition. However, the role development in the current study was limited by a lack of collective knowledge brokering; a deficit which was reflected by the emergence of unintended outcomes, such as dissatisfaction of the role performance. As a result of limited collective brokering, important regulation and policies relevant to the role are yet to be established.

Conclusions: The study highlights the key importance of knowledge brokering both at the individual and collective levels as the factor required to move the professional role of emergency nurses forward in the ED. Knowledge brokering interacted iteratively with the context. Such interactions made the context receptive to change. In return, it activated more mechanisms in producing expected outcomes of the transition. This study extracted a list of recommendations in the form of context-mechanism related interventions to support the development and transition process of emergency nurses' roles.

Lay Summary

Overcrowding, delayed treatment, and waiting patients have become the main issues in emergency departments. These situations lead to poor clinical outcomes for the patients. In order to deal with these issues, emergency nurses have been assigned to handle minor injury and illness patients presenting in emergency departments. Emergency nurses, who have this type of role are addressed as emergency nurse practitioners. This arrangement mostly occurs in high-income countries such as the United Kingdom, the United States, and Australia.

Research has shown that emergency nurse practitioners improve patients' outcomes, decrease the number of waiting patients, delayed treatment time, and increase the cost-effectiveness of care. However, there is little understanding of how the role of emergency nurse practitioners was developed and implemented in those high-income countries. Moreover, in Indonesia, little is known regarding the development of emergency nurses' roles because of a lack of published studies. Therefore, this research was designed to understand the contributory factors that shape emergency nurses' roles in Indonesia.

The research was conducted in a major emergency department in an Indonesian hospital with the researcher using a qualitative realist approach. In this study, data were gathered from observations of activities and interactions of thirteen participants in the emergency department. Participants consisted of nurses and physicians. Eighteen interviews involving fourteen participants took place. Information came from staff across different healthcare professions, managers, and representatives of professional organisations, as well as from policy documents.

Findings showed that emergency nurses' roles in the emergency department are changing. The changing process is influenced by different factors which exist at individual, institutional, and organisational levels. These factors can either enable and / or disable the process. The study suggests that knowledge brokering can be used to overcome issues that occur during the change. Knowledge brokering involves activities that include connecting people to people or information in order to promote the level of engagement with people and organisations involved in the change of emergency nurses' roles. An ineffective knowledge brokering process may prevent nurses from performing their roles as expected which, in turn, will prevent them to improve patient flow and outcomes in the emergency department.

In conclusion, the study findings provide insights into how emergency nurses' roles can be developed, implemented, and evaluated. The recommendations made in this study can be used to support the development and change of emergency nurses' roles.

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List of Abbreviations

ACN	Advanced Clinical Nurse
ACP	Advanced Clinical Practitioner
ACNP	Acute Care Nurse Practitioner
AENP	Advanced Emergency Nursing Practice
AMU	Acute Medical Unit
ANA	American Nurses Association
ANP	Advanced Nurse Practitioner
APN	Advanced Practice Nursing
CA	Content Analysis
CAPD	Continuous Ambulatory Peritoneal Dialysis
CDL	Catheter Double Lumen
CE	Continuing Education
CENA	College of Emergency Nursing Australasia
CIN	Clinical Initiative Nurse
CMO	Context-Mechanism-Outcome
CNE	Continuous Nursing Education
CNS	Clinical Nurse Specialist
CPD	Continuous Professional Development
CR	Critical Realism
CVC	Central Venous Catheter
DOH	Department of Health
ECG	Electrocardiogram
ED	Emergency Department
EMMAN	Emergency Medical Management
EN	Emergency Nurses
ENA	Emergency Nurses Association
ENP	Emergency Nurse Practitioner

ENPO	Emergency Nurses Professional Organisation
GP	General Practitioner
ICU	Intensive Care Unit
IEDNA	Indonesian Emergency and Disaster Nurses Association
INNA	Indonesian National Nurses Association
IOM	Institute of Medicine
IV	Intravenous
KPI	Key Performance Indicator
MHRI	Ministry of Health Republic of Indonesia
MRT	Middle-Range Theory
NAO	National Audit Office
NGT	Nasogastric Tube
NHS	National Health Service
NICE	National Institute for Clinical Excellence
NP	Nurse Practitioner
P4P	Pay for Performance
PCI	Percutaneous Coronary Intervention
TENP	Transitional Emergency Nurse Practitioner
RCN	Royal College of Nursing
RIR	Realist-Informed Review
RPT	Realist Programme Theory
STEMI	ST-Elevation Myocardial Infarct

List of Definitions in the Realist Approach

Abduction	A process used to interpret empirical data using different theoretical concepts
Demi-regularities	Tendency of patterns or fluctuation of patterns in a semi-predictable manner because contextual variation can contribute to differences in behaviour patterns of human agency
Context	Elements in the backdrop of a programme that have an impact on outcomes. The context does not refer simply to the geographical or institutional location; rather it can include set of policy, social rules, norms, and values
Emergence	Clustered entities that can have power by producing synchronic effects of a pattern within their organisation
Mechanism	Resources offered through a programme and the way people respond to those resources
Middle-range theory	A theory that often oriented towards conceptualisation and abstraction but still grounded to the empirical data
Realist programme theory	A causal theory that contains statements about how resources from a programme, when embedded in a certain context, trigger people's responses, thus producing outcomes
Retroduction	A reasoning process that moves from concrete to abstract and back again
Structure	Power owned by particular groups of human agencies
Outcome	Intended or unintended effects based on context-mechanism interactions

Chapter 1: Introduction

1.1 Introduction

This chapter presents the background of this qualitative study regarding emergency nurses' role transition in a major emergency department of a hospital in Indonesia. Different from previous research, where the focus has been primarily on exploring or evaluating the outcome of emergency nurses' role using qualitative and / or quantitative approaches, this study used a realist approach which focuses on the transition process itself. In particular the research will examine what makes the transition work (or not) and how, what are the new roles, under what circumstances will the transition succeed or fail, and what outcomes result from the transition process.

The chapter begins by explaining the background of the study, which includes the emergency nurses' role transition from both from international and Indonesian perspectives. Next, an explanation of the researcher's professional and personal interest in this area is presented. The chapter then highlights the significance of the study and describes the organisation of the thesis.

1.2 Emergency Nurses' Role Transition – International Perspectives

The challenges of healthcare system transformation, complexity of population needs, and the need to deliver a cost-effective emergency service provides opportunities for nurses to extend and develop their roles (Bryant-Lukosius et al., 2017, Carryer et al., 2018, Hill et al., 2017). According to the International Council of Nurses (ICN), in order to answer such challenges, the role of nurses should shift towards advanced practice. Since the first implementation of this transition initiative, the demands associated with an advanced nurse's role have increased significantly (ICN, 2020).

Emergency services also face similar challenges and changes. For instance, surveys conducted in the United Kingdom and the United States reported that the roles of emergency nurses in the emergency department have extended to now focus on treating a wide range of minor illness cases (Cooper et al., 2001, Snyder et al., 2006). Moreover, the Emergency Nurses Association (ENA), the Royal College of Nursing (RCN), and the College of Emergency Nursing Australasia (CENA) highlighted that overcrowding, an increase of minor injury patients presenting to emergency departments, on-going developments in health care, and workforce issues in the emergency care field have all contributed to changes in the emergency nurses' role (ENA, 2011b, RCN, 2012, CENA, 2013).

Experts believe that implementing the advanced practice role of emergency nurses in the emergency department can overcome these issues (Nixon, 2008, DiFazio and Vessey, 2014). Therefore, over the last forty years, the roles of nurses in emergency department have been expanded significantly to ensure that those nurses are, and will be, able to meet current expectations of the profession, organisations, and communities at large (ENA, 2011b, RCN, 2012, CENA, 2013). Structures including legal regulation, education, and formal registration have evolved simultaneously to support the implementation of these extended roles (Fitzgerald et al., 2012, Jones et al., 2015, Solheim, 2016).

1.2.1 Defining Advanced Practice Nursing and Advanced Practice Nurse

The International Council of Nurses (ICN) refers to Advanced Practice Nursing as *“advanced nursing interventions that influence clinical healthcare outcomes for individuals, families, and diverse populations”* (ICN, 2020, p.6).

Meanwhile, the Advanced Practice Nurse is defined as:

“a generalist or specialised nurse who has acquired, through additional graduate education (minimum of a master’s degree), the expert knowledge base, complex decision-making skills and clinical competencies” (ICN, 2020, p.6).

According to the ICN there are two common advanced practice nurse’s roles, which are Clinical Nurse Specialist and Nurse Practitioner. A Clinical Nurse Specialist (CNS):

“provides expert clinical advice and care based on established diagnoses in specialised clinical fields of practice along with a system approach in practicing as a member of the healthcare team” (ICN, 2020, p.6).

Whereas a Nurse Practitioner (NP):

“integrates clinical skills associated with nursing and medicine in order to assess, diagnose, and manage patients in primary healthcare (PHC) settings and acute care populations as well as ongoing care for populations with chronic illness” (ICN, 2020, p.6).

In the emergency setting, the Emergency Nurses Association (ENA) uses the same title as the ICN for nurses who have advanced practice roles. The ENA refers to a CNS as an advanced practice registered nurse who:

“provides expertise in direct health care consumer care, evidenced-based practice, and education for staff, health care consumers, and family in order to improve health care consumer outcomes. CNS recommends practice or system changes based on analysis of current trends, technologies, and evidence-based practice” (ENA, 2011b, p.8).

While Nurse Practitioners are advanced nurses who:

“provide health care to health care consumers through assessment, diagnosis, intervention, and evaluation. They diagnose and treat established or undifferentiated conditions through physical examination, history assessment, and diagnostic testing and prescribe pharmacological and non-pharmacological interventions (ENA, 2011b, p.8).

In the United Kingdom, advanced practice nurses who practice in the emergency department are addressed as Emergency Nurse Practitioners or Advanced Clinical Practitioners. An Emergency Nurse Practitioner is:

“a registered nurse who has undertaken specific additional training in order to assess, diagnose, and prescribe treatment for patients who present with minor injuries and or illness” (RCN, 2017a, p.6).

An Advanced Clinical Practitioner is:

“an emergency nurse who has undergone masters level education in examination, diagnosis, and treatment and can provide a clinical consultation for any patient presenting to emergency care” (RCN, 2017a, p.6).

It is important to highlight, based on the above definitions, that the key characteristic that causes the role of an emergency nurse to be considered as an advanced role is the advanced nursing intervention.

1.2.2 The Development and Standard Disparity of Advanced Roles

Since its first dissemination, the development of advanced roles for emergency nurses shows standard disparity in education and training preparation for the role, title, scope of practice, and role utilisation (Currie et

al., 2007, Hudson and Marshall, 2008, Fawdon and Adams, 2013, McDevitt and Melby, 2015, Lloyd-Rees, 2016).

The International Council of Nurses (ICN) acknowledges that each country is at a different stage of development regarding the roles of their advanced nurses (ICN, 2020). In low- and middle-income countries, such as Sri Lanka and Ghana, increasing the training of their nursing workforce in emergency care remains a significant need (Charlton et al., 2011, Bell et al., 2014, Scott and Brysiewicz, 2016). Therefore, these authors highlight that in developing countries the primary focus of emergency nurses' roles is to provide a safe and standard emergency care for patients; a goal to be achieved through the development of emergency nursing education and training. On the contrary, high-income countries such as the United Kingdom, the United States, and Australia have broadened the advanced nurses' roles to prescribing drugs, ordering and interpreting diagnostic tests, referring, influencing their healthcare system, and treating minor illness and injury patients autonomously (ENA, 2011b, CENA, 2013, RCN, 2017a). Thus, each country moves at different speeds towards the development of their emergency nurses' roles, based on country-specific context and needs.

Moreover, current nursing education programmes in low- and middle-income countries offer only limited education relating to about emergency care (Bell et al., 2013, Scott and Brysiewicz, 2016). At the other end of the spectrum, there is lack of comprehensive and standardised emergency nursing training for post-registration nurses in those low- and middle-income countries, such as Ghana (Martel et al., 2014). These situations leave the nursing workforce with limited emergency skills that would prevent nurses from giving a consistent and high-quality service in the emergency department (Bell et al., 2014, Martel et al., 2014). Therefore, compared to issues faced by high-income countries, the problems existing in emergency nursing practice in low- and middle-income countries are the fundamental issues of practice, education, and training (Scott and Brysiewicz, 2016). In low- and middle-

income countries, the need to establish sustainable emergency care outweighs the urgency to advance a certain profession (Martel et al., 2014). However, Crouch and Brown (2018) argued that developing the advanced roles of nurses or other allied healthcare professionals, for instance via the emergency care or advanced clinical practitioner pathways, can sustain emergency services as well as addressing any workforce issues in the emergency area. It was also highlighted that such pathways provide a framework to gain a multi-professional understanding of key principles in practicing advanced roles of emergency care in order to meet patients' needs.

1.2.3 The Implementation and Evaluation of Advanced Roles

The implementation of the advanced nursing role is highly depended on country-specific or even region-specific regulations (Currie et al., 2007, Hudson and Marshall, 2008, Fawdon and Adams, 2013, McDevitt and Melby, 2015, Lloyd-Rees, 2016). The authors emphasise that these regulations contribute to different standards in the educational preparation for the role, as well as influencing role titles and role utilisation. This situation also means there are dissimilarities regarding the levels of authority among emergency nurses across emergency departments when those nurses are required to deliver advanced nursing interventions.

Some challenges when implementing the role were documented, including resistance from nursing colleagues (Christofis, 2001, Brook and Crouch, 2004), blurring of boundaries, confusion, and interprofessional role conflict (Tye and Ross, 2000, Norris and Melby, 2005, Hudson and Marshall, 2008, Lloyd-Rees, 2016). According to Robinson and Griffiths (2007) disparities in the implementation of the role represent the key factor resulting from those conflict- or confusion-related issues.

Despite facing challenges in the implementation, advanced roles have delivered positive impacts on key performance indicators (KPIs) of the ED, including reduced waiting times and length of stay for emergency patients (Jennings et al., 2008, Steiner et al., 2015) as well as increased patient satisfaction levels of care (Dinh et al., 2012).

Implementation of advanced nursing roles in the ED was associated with a 7-minute reduction in mean wait time for low-acuity patients to be seen by a clinician (Steiner et al., 2015). Moreover, patients managed by the emergency nurse practitioners (ENP) group had overall median waiting times less than the traditional model (TM) group (ENP 12 minutes; TM 31 minutes). The length of stay was also reduced in the ENP group (ENP 94 minutes; TM 170 minutes) (Jennings et al., 2008). Furthermore, in a survey study, 84% of patients rated their satisfaction towards ENP care as either “very good” or “excellent” (Dinh et al., 2012).

Systematic review papers have also indicated that the advanced practice nursing role impacts positively on the quality of care, clinical outcomes, patient satisfaction, waiting times, and cost in emergency departments (Jennings et al., 2015a, Woo et al., 2017). However, the authors highlighted that conducting a meta-analysis of outcomes was inappropriate because the included studies were heterogeneous in role titles, scope of practice, levels of interventions, and outcome measures. Woo et al. (2017) added that educational preparation for nurses to perform the advanced role was rarely discussed. Therefore, world-wide the knowledge and competency of emergency nurses might vary greatly, which made the comparison even less relevant to be carried out.

Moreover, other researchers also noted that outcomes from primary evaluation studies regarding the effectiveness of advanced nurses' roles are still subjects to criticism (Considine et al., 2010, Colligan et al., 2011). For instance, Considine et al. (2010) stated in their study that knowledge and skill

differences between two compared groups of emergency nurse practitioners and physicians may result in different waiting times outcomes. Emergency nurse practitioners included in the study were senior nurses with years of experience and advanced training, meanwhile physicians were junior registrars, who did not share advanced skills or practice privileges possessed by the emergency nurse practitioners. The authors proposed that junior clinicians often seek clarification from their senior colleagues, resulting in delays in assessment and treatment of fast track (minor injury or illness) patients.

Another dissonant characteristic was regarding the scope of practice of the emergency nurse practitioner and junior registrar. Colligan et al. (2011) noted in their study that emergency nurse practitioners and registrars were assigned to treat patients at different severity level. Emergency nurse practitioners treat only minor illness or injury patients, while registrars handle both minor and more severe patients. It was also highlighted that registrars treated higher acuity patients first, ahead of minor injury patients. This circumstance caused the delay in treating a new or minor injury patient.

1.3 Emergency Nurses' Roles in Indonesia

In the Indonesian context, emergency departments are categorised into four levels; level I, II, III, and IV (Ministry of Health Republic of Indonesia [MHRI], 2018). Level IV (major) is the highest emergency department (ED) that provides diagnosis and treatment of airway, breathing, and circulation problems. A level IV ED has the most advanced facility including ventilators, and observation rooms, as well as providing emergency operations and anaesthesia. A level IV ED also acts as the referral ED for other lower-level emergency departments and therefore becomes the centre of education and research. Moreover, this type of ED gives comprehensive services, such as on call sub-specialists, on site 24 hours of general practitioners and four specialists, including surgical, obstetrics and gynaecology, paediatric, and

anaesthesia. The lower the ED level, the fewer are the advanced intervention and services offered. Nurses who work at all levels of emergency departments are required to have either a bachelor degree or diploma with a minimum of one year post-registration experience, and to be certified in emergency nursing basic level (MHRI, 2011).

The inclusion of an emergency nursing course into the undergraduate programme for nurses is a common curriculum structure in Indonesia. However, the amount of credit, which is allocated for the course varies between bachelor degree and diploma, as well as among institutions within the same degree programme (Association of Indonesian Nurses Education Center [AINEC], 2015, Association of Indonesian Nurses Vocational Education Center [AIPVIKI], 2018). Post-registration training is also available for nurses who wish to enhance their professional competency and skill levels in the emergency area (Indonesian Emergency and Disaster Nurses Association [IEDNA], 2019). However, the type of the available training is still limited, as it mainly focuses on airway, breathing, and circulation treatment at the basic and intermediate levels. That limitation can be seen in the fact that there is, as yet, no specific course to address the areas of trauma, emergency nursing paediatric, or geriatric (IEDNA, 2019). Moreover, emergency nursing practice in Indonesia is still not yet considered as a nursing specialisation (Trisyani and Windsor, 2019); therefore, at present there is no specialist emergency nursing programme offered by an Indonesian university.

Trisyani and Windsor (2019) identified that the role of emergency nurses in the emergency department has been shifted to extended roles. However, in the Indonesian context, this shifting refers to a role substitution. Role substitution means that if physicians are not available, the task will be delegated (verbally) by physicians to nurses (Trisyani and Windsor, 2019). Besides, the authors highlighted that the absence of a legal framework for advanced practice nursing means the role is defined as a substitute for the

physician's role. The authors were also highlighted that the role and responsibility of nurses related to emergency situations are regulated by Indonesian statute of nursing, which was only approved in 2014 after 25-year struggle. The legislation (Nursing Act 2014, c.34) states that in life-threatening situation, nurses can perform medical intervention and administer drugs; actions based on and informed by their competency levels but no regulation related to advanced practice nursing was included. In practice, emergency department nurses are still lacking authority, either when dealing with life-threatening or minor illness patients (Trisyani and Windsor, 2019). The authors emphasised that the delay in gaining professional recognition and a higher education degree qualification are the two main reasons for the current lack of authority among emergency nurses.

The first 3-year diploma programme of nursing in Indonesia was established in 1961, whereas university-based bachelor nursing degree was initiated in 1985. In Indonesia, since 1912, the nurses' role was undertaken by trained personnel without a higher education degree (Trisyani and Windsor, 2019).

In conclusion, the above explanation has highlighted that the interplay among professional knowledge, authority, and power is important for the extension of emergency nurses' roles.

1.4 Researcher's Interest in Advanced Practice Nursing

The current study emerged from the researcher's professional background working within the area of emergency nursing in Indonesia. The researcher's clinical experience and roles as a clinical educator in the emergency department (ED), an emergency nursing university lecturer, and a board member of a professional organisation that works closely with policy and regulation, have heavily influenced this researcher's interest in the topic of 'advanced practice'.

I first encountered the topic of advanced practice nursing when I was doing supervisory reading during my master's study. I found that one of the proposed solutions implemented by high-income countries, to deal with emergency department issues such as overcrowding and delayed treatment, was to optimise role utilisation of emergency nurses; particularly when working within the areas of minor injury and illness patients. In other words, the solution was to create and implement an advanced practice nurse's role. Reading the evidence on this topic was an eye-opener for me. In my experience, although emergency departments in Indonesia encounter the same issues as are experienced in hospitals around the globe, the advanced role of emergency nurses had not yet developed in my own country. Thus, I decided to choose the topic of 'advanced practice nursing', with all that this issue involves, for my PhD study.

1.5 The Significance of the Research

A realist-informed review was conducted to understand current evidence regarding the development of emergency nurses' roles, including contributing factors that shape the role, process and interaction as well as implementation and evaluation of the role. Included in the review were primary studies (qualitative and quantitative), secondary studies (systematic, integrative, and literature reviews), discussion papers, reflection papers, and guidelines.

The review included 48 articles and papers. The findings indicated the importance of understanding contexts within the development, implementation, and evaluation of emergency nurses' roles to address issues in the emergency department. Moreover, no primary or secondary study was found that used a realist approach. Therefore, there was a relative ignorance about the transition process, how such roles work, for whom, and under what circumstances. Knowledge of these areas provides comprehensive understanding to interested parties who would like to integrate an advanced practice nurse's role in their emergency departments.

At the time of designing this research, little was known about the current development of emergency nurses' role in the emergency departments of hospitals in Indonesia; a perspective strengthened by the fact that there is only one published study from Indonesia included in the review. Thus, the role utilisation of emergency nurses, let alone the implementation (or existence) of advanced practice nursing in emergency departments in Indonesia, remains unknown. Therefore, this study was designed to gain an understanding of contributory factors at micro, middle, and macro level that shape emergency nurses' roles in a level IV (major) Indonesian emergency department, including how the process of a role shaping happened and the outcome that is produced.

1.6 Thesis Structure

The chapters are organised as follows. Chapter 2 provides a realist review of the literature. Chapter 3 gives detailed explanations regarding critical realism, the philosophical stance underpinning this study. This chapter also includes discussions regarding methods, ethical issues, reflexivity, and trustworthiness. Chapter 4 presents findings related to the social and organisational contexts of emergency nurses' role transition. Transition theory, as the middle-range theory of the study, which was generated from the data is explicated in this chapter. Chapter 5 explains findings relating to the process knowledge brokering; particularly how individuals, institutions, and wider organisations contribute to the transition process of the emergency nurses' roles. Chapter 6 unpacks findings in regard to the process of reconstructing the authority of emergency nurses and the efforts made by individuals and groups involved in that process. Chapter 7 discusses what works (or not), for whom, and under what circumstances when trying to implement the process of emergency nurses' role transition. Chapter 8 concludes this thesis with recommendations and acknowledgement of the study's limitations.

Chapter 2: Realist-Informed Review

2.1 Introduction

The researcher conceptualised advanced practice nursing as a complex intervention, and so used a realist review to synthesise the literature for evidence. A realist methodology is originally developed by Pawson and Tilley (1997). The methodology is designed particularly to investigate how a certain programme or intervention works by unearthing contexts, where the programme embedded, and the underlying mechanisms, which informed the process. Detail explanations regarding this methodology are presented in [Chapter 3: Research Design and Methods](#).

This chapter reviews the literature pertinent to emergency nurses' role transition using a realist review as there was a pressing need to understand the process and contextual factors that influence the success or failure of the transition towards advanced practice nursing in emergency departments.

A key insight emerging from a realist review in this topic is that particular transitions of an emergency nurse's role may work well under certain circumstances (e.g., waiting times of patient in the emergency department is decreased, patient's level of satisfaction is increased), but poorly or not at all under other circumstances. Therefore, the review aims to identify causal explanations from the current literature on emergency nurses' role transition, including the development of the role, types of the role implemented in the emergency department, the transition process and its influencing factors, as well as the outcomes produced. These causal explanations contain statements regarding the relationship between the context within which the role transition happens and the mechanisms through which the transition works or fails to work. Success or otherwise is indicated by the outcomes of the new role as judged by improvements (or not) in clinical healthcare and

organisational outcomes. Such causal explanations also refer to context-mechanism-outcome (CMO) interactions (Pawson and Tilley, 1997).

Specifically, this chapter is divided into three parts. The first presents the method used to conduct the review. The second part presents the results of this review. The third part provides discussion of the results. This chapter was updated throughout the study to make sure that the latest articles addressing the issue of emergency nurses' role transition was included.

2.2 Method

Pawson (2002) suggested that the approach of any evidence-based practice (EBP) review, such as meta-analysis or narrative review, should include three vital elements. Firstly, understanding of how interventions or programmes work, also refer to the causation element. The second element is the list of key ingredients that should be extracted from each study, which is also referred to as the 'ontological element'. Thirdly, there is the view that sees existing literature as a knowledge transfer tool, which can be used to inform future policy and practice. Such a view is also known as a 'generalisation element'. A realist review has different assumptions towards these three elements. Instead of successionist conception of causality, a realist review utilises the generative approach of causation (Pawson, 2002, Pawson et al., 2005, Wong et al., 2013, Jagosh, 2018). Therefore, these authors highlighted that unlike other types of review, the ontology in a realist review is based on generative mechanisms. Thus, the generalisation in a realist review tailors the concept of 'X' programme works for 'A', 'B', and 'C' groups under 'J', 'K', and 'L' circumstances but not in 'O' and 'P' situations.

A realist review provides causal insights of a programme comprehensively by synthesising different types of evidence, including articles of primary studies, both quantitative and qualitative, as well as secondary studies, and policy document (Pawson, 2002, Pawson et al., 2005). Over the years of the realist

review's development, researchers have tailored the method based on the needs, characteristics, and challenges of the case under investigation. Different names, such as 'rapid realist review' (RRR) (Saul et al., 2013) and 'realist-informed review' (RIR) (Mutschler et al., 2018, Campbell et al., 2019), have been used to indicate a realist review that shares similarities with Pawson's original method but also has some differences. For instance, Saul et al. (2013) followed the key stages for a realist review, as suggested by Pawson (2002) and examined interactions of context-mechanism-outcome but also included stakeholder groups as non-documentary sources of data in the review in order to streamline the review process. Thus, a rapid realist review (RRR) provides a comprehensive way to generate similar types of knowledge but in a much shorter time than a realist review suggested by Pawson (Saul et al., 2013). These stakeholders, such as programme designers, implementers or users, act as content experts who are requested to help the researcher with one or more of the following: (1) advice on how the programme is expected to work, (2) giving feedback on configured causal explanations, or (3) identifying other relevant documentary data (Wong, 2018). As for a realist-informed review (RIR), there is no agreement on the differences and similarities that cause this review type to be named as 'realist-informed review'; as noted in articles from Mutschler et al. (2018) and Campbell et al. (2019).

The review in this study is referred to as a realist-informed review. The key features of a realist-informed review (RIR) featured in this study are: (1) it has followed the key stages for a realist review described by Pawson; (2) it has used context-mechanism-outcome (CMO) heuristic tools to configure causal explanations; (3) only documentary data were reviewed; (4) it did not review one particular role practiced by emergency nurses, instead the review looked at the overall process of role transitions, and (5) statements of the causal explanation configured from the review were not tested further in this primary study; instead these causalities were used to provide and support analytical reviews located in the discussion chapter of the primary study.

This review followed the key steps, which were originally developed and then expanded by Pawson (2002) and Pawson et al. (2005). The steps involve: (1) identifying review questions, (2) searching for evidence, (3) identification, selection, and appraisal, (4) extracting data, (5) analysing data, and (6) disseminating findings. The synthesis of the context-mechanism-outcome (CMO) found in the review will not be discussed in detail in this chapter. Instead, the CMO configured from this review will be compared and contrasted further with CMO configured from this primary study in [Chapter 7: Discussion](#), as a part of analytical and iterative process of data analysis and synthesis. The same arrangement applies for disseminating findings. Recommendations from the review findings will be integrated in [Chapter 8: Conclusion](#) of this study.

2.2.1 Identifying Review Questions

According to Pawson et al. (2005), an initial search of the literature helps researchers to determine the preliminary boundaries of the investigated topic and to formulate review questions. Moreover, realist review questions can also be developed by obtaining input from programme designers, stakeholders or knowledge users (Saul et al., 2013).

The review questions in the current study were formulated from the initial search of the literature around emergency nurses' roles:

“Is there evidence of a transition towards advanced practice nurse’s role in emergency departments and, if so, what are its characteristics?”

2.2.2 Searching for Evidence

The process of searching for evidence began with an initial search using the key terms of (1) ‘advanced practice nurse’ or ‘advanced practice nursing’ or

'nurse practitioners', (2) 'role', (3) 'history' or 'development' and (4) 'emergency room' or 'emergency department' in four electronic journal databases, including CINAHL Plus, MEDLINE, PsycINFO, and EMBASE. Documents and information regarding the historical background of emergency nurses' role development were also retrieved from websites of professional organisations and governmental agencies. Findings from the initial search were used to develop review questions for the second search, which was specifically implemented to address context-mechanism-outcome (CMO) issues relevant to emergency nurses' role development.

The second search was carried out towards five electronic databases, including CINAHL Plus, MEDLINE, PsycINFO, EMBASE, and Web of Science using search terms: (1) 'nurs*', (2) 'role', (3) 'transition*' or 'expand*' or 'extend*' or 'evolution*' or 'change*', (4) 'evaluat*' or 'explor*' or 'perspective' or 'view' or 'opinion' or 'perception' or 'attitude' or 'reflect*' or 'experienc*', (5) 'advanc*' or 'specialist' or 'practitioner', and (6) 'emergency room' or 'emergency department'. Details of searching strategy is available in [Appendix 1: Searching Strategy](#).

In the initial and second search, key terms were combined with the AND Boolean operator. The search was limited to abstracts' and full-texts' availability. However, the year of publication was not limited since the review attempted to address the whole process of emergency nurses' role development from the earliest through to the latest phases.

In the initial search there was a total of 24 included articles. In the second search, a total of 24 articles was initially included. However, 15 out of 24 articles had already been retrieved during the initial search. There was a total of 48 articles from background and second searches included in this review (Figure 1).

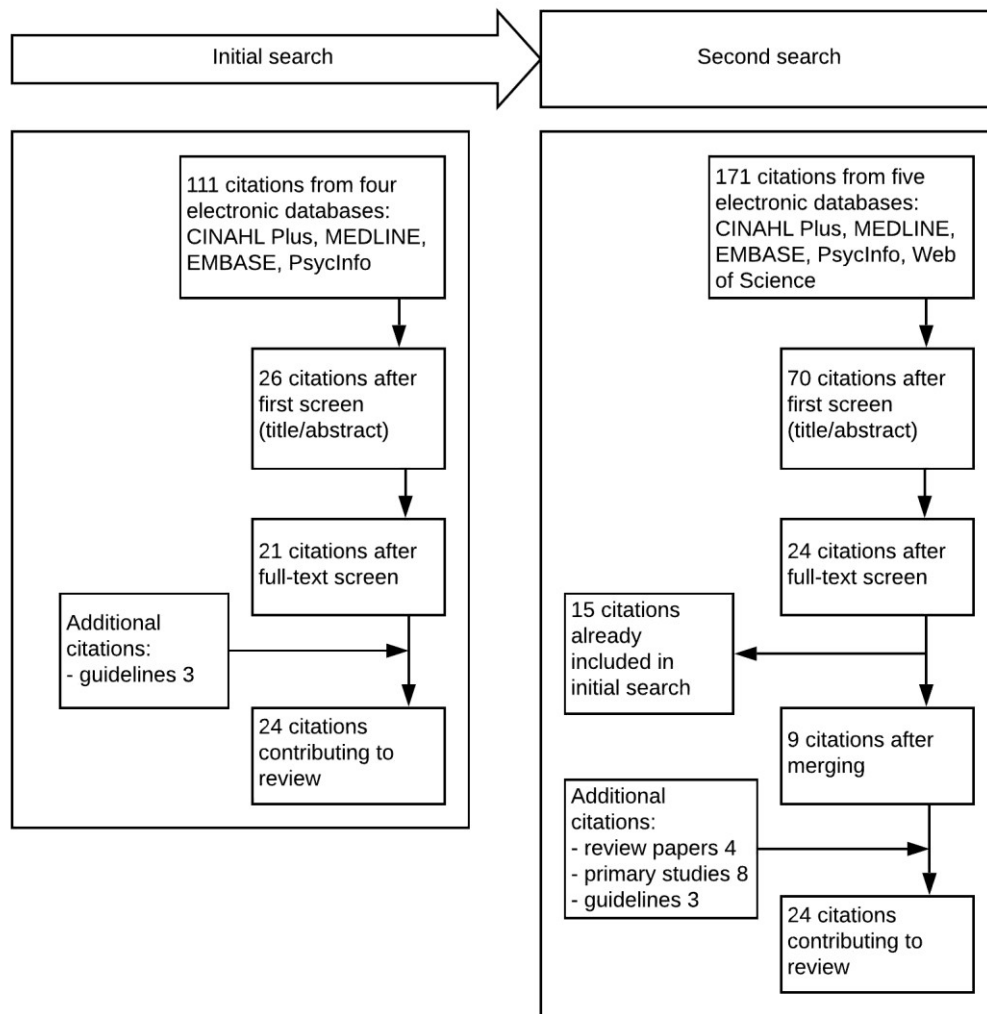


Figure 1. Flow diagram illustrating search process*

*) adapted from Wong et al. (2011)

It should be noted that the process of searching for evidence in a realist review is iterative, extended, and overlapping. Analysis of the evidence is designed to make sure the best causal explanations are configured (Booth et al., 2018). Therefore, in a realist review it is typical and legitimate that the aim, question, breadth, and depth of the review evolve as the process progresses (Wong et al., 2013). As the analysis of included literature progresses and causal explanations start to emerge, the searching for evidence continues with a purposive sampling approach to clarify (or test) these causal explanations (Pawson et al., 2005). In addition, a snowball

approach of literature searching, in which one reference leads to others, can also be used to explore new causal explanations as and when they emerge (Wong et al., 2013).

Once the context-mechanism-outcome (CMO) (causal explanations) around the investigated topic from included articles began to construct, the searching process continued, whenever necessary, with purposively select documents or literature that can contribute to configuring the CMO further. This is the logic of the flow when searching for evidence in a realist review (Pawson et al., 2005). For instance, Wong et al. (2011) used this flow of searching in their realist review when investigating legislative interventions to ban smoking in cars carrying children.

In the second search, a total of 15 articles were retrieved manually. The search process of these articles was to purposively follow causal explanations, in CMO form, which were configured from the analysis process of the review. Articles related to: (1) scope of practice, (2) level of intervention, and (3) preparatory education of emergency nurses' advanced role were retrieved. Moreover, previous literature and systematic review papers that evaluates impacts of emergency nurses' advanced role were traced manually. Furthermore, primary study articles included in the latest systematic review were also included in this realist review. These steps were used as strategies to locate relevant evidence in order to understand better about causal explanations of emergency nurses' role development world-wide.

2.2.3 Identification, Selection, and Appraisal

A realist review involves different concepts in ensuring the quality of included data (Wong, 2018). The author highlights that a realist review is much more about explaining causality of phenomena than measuring size effects. According to Wong et al. (2013), the robust nature of a realist review cannot

always be guaranteed by following a designated protocol since the review is not a technical process.

Wong et al. (2013) and Wong (2018) suggest two criteria to assess selected literature: (1) trustworthiness (rigour) and (2) coherence. Trustworthiness concerns the method used to generate the data (Wong et al., 2013). According to Wong (2018), there are three considerations when assessing the trustworthiness of data: (1) when the literature reports some sort of method(s), assuming that the data is generated empirically, (2) when a literature does not present any information gathering method used, treat the data with scepticism, and (3) always try to find or access more than one type of data. However, trustworthiness is not always evident in a realist review. For instance, a policy document, which is considered to be of limited trustworthiness since there is no method included, can make a contribution to a realist review (Wong, 2018). Therefore, it was suggested that when considering the quality of a realist review, researchers also need to include the concept of coherence. The coherence of data signifies whether it can contribute to the understanding of a causal explanation, whether it is simple, and if it fits (Wong, 2018).

According to Wong et al. (2013) it is difficult to narrow down the number of documents included in a realist review because it is arguable that the greater the range of the relevant documents, the greater will be their contribution to the review. Therefore, in practice, the authors highlighted that the selection and appraisal steps may be carried out simultaneously with the analysis process.

In this review, all abstracts retrieved from online database were scrutinised using two identification questions: (1) does the abstract indicate the nurses' roles? and (2) does the publication's abstract indicate an emergency department setting? For the full-text articles and hand-searched documents included in this review, two appraisal questions were addressed: (1) does the

full-text or document describe (still describe) an emergency department nurse's role? and (2) does the full-text or document present some form of data (driving forces or nurse practitioner model or context or mechanism or outcome) related to emergency nurses' role transition?

2.2.4 Extracting Data

In order to extract key elements within the included literature, a data analysis matrix was developed. This matrix contains elements of: (1) authors, (2) publication year, (3) population, (4) title of study, (5) type of paper, (6) methods, (7) type of emergency department, (8) role title used, (9) driving forces, (10) nurse practitioner model, (11) context, (12) mechanism, (13) outcome, and (14) proposed theoretical framework.

2.2.5 Analysing Data

An analysis of needs for advanced practice nursing, nurse practitioner model, and context-mechanism-outcome (CMO) interactions found across literature were carried out using NVivo 11 (NVivo, 2015) (Figure 2). Data analysis in this review followed the realist analysis principle. A detailed explanation about this principle, and how to conduct the analysis, was presented on section [3.5 Data analysis](#) of this study.

All included articles were imported to NVivo. Category identification was started by highlighting sentences that contained key meanings in order to generate codes. Then codes were labelled by taking a word or phrases that represented the key meaning of those sentences. These codes were compared, contrasted, grouped, and levelled up to subcategories and categories based on their similarity and differences. Links between codes were also explored. At this point, the process of CMO configurations was conducted simultaneously.

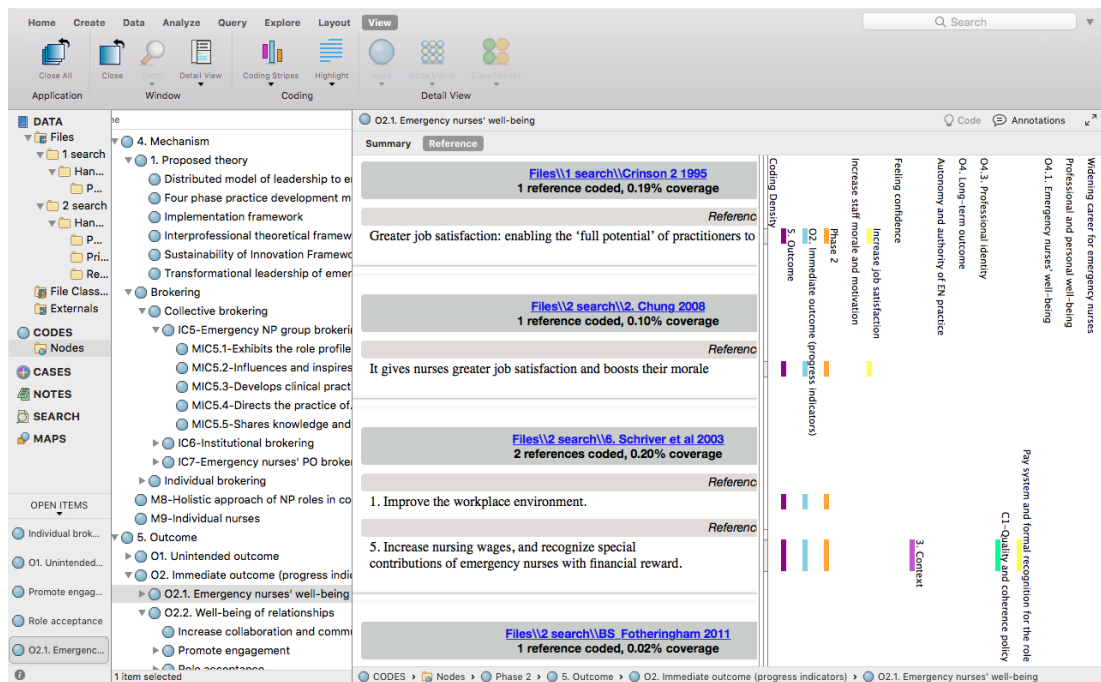


Figure 2. NVivo of realist-informed review

Researchers have suggested that the use of NVivo in a realist review can improve transparency, rigour, and comprehension when synthesising the findings (Houghton et al., 2017, Gilmore et al., 2019). In this review, the NVivo offered fast, easy, and systematic access to retrieve particular codes from CMO and to run certain analysis on them. For instance, NVivo functions, such as project map, allowed the researcher to build links across CMO codes to synthesise their interactions further. Moreover, NVivo also provides flexibility to move and revise the code as the CMO configurations progress and more interactions are revealed.

2.3 Results

A total of 48 studies written in English between 1995 to 2020 were included in this review. Of the publications there were 26 primary research reports, 7 literature reviews, 6 guidelines, 3 discussion papers, 3 systematic reviews, 2 reflection papers, and 1 integrative review. Within primary research, the most commonly used research method was qualitative (7), followed by survey (6), mixed method (3) and 10 used other quantitative approaches. Most studies

originated from high-income countries, such as the United Kingdom, the United States, and Australia, which may indicate the countries' awareness of an emergency nurse's role development. Only one study from Indonesia was included in this review. Details of the studies, papers, and documents included in this review are available in [Appendix 2: Summary of Included Studies](#).

2.3.1 Emergence of the Need for Advanced Practice Nurses in the Emergency Department

Historically in the late 1900s, in the United Kingdom and the United States, senior nurses had been reported as providing care in emergency departments when a physician was not available (Snyder et al., 2006, Hoskins, 2011). Over time issues in emergency departments, such as an increase number of minor illness or injury patients visiting emergency departments, shortages of physicians, and extended patient waiting times have combined to create an urgent need to transform emergency nurses' roles, particularly among high-income countries such as the United Kingdom, the United States, and Australia (Norris and Melby, 2005, Snyder et al., 2006, Cashin et al., 2007, Chung, 2008, Keating et al., 2010, Lowe, 2010, Hodge et al., 2011, Bagley, 2018). At the same time, there is a growing number of aging and chronic disease populations, particularly in these high-income countries (Schriver et al., 2003, Chung, 2008, Keating et al., 2010, Woo et al., 2017, Fox et al., 2018). Members of these two populations regularly visit emergency departments to seek treatment, which leads to even more crowded conditions in those departments and ever greater workloads for the personnel within them.

There is an urgent need to provide high quality, effective, and efficient emergency care across different patient's needs which in turn has led to a re-examination of existing services and an expanded role for nurses in emergency departments (Crinson, 1995a, Crinson, 1995b, Marr et al., 2003, Schriver et al., 2003, Melby et al., 2011). Literature indicated that

transitioning the status of emergency nurses towards advanced roles is perceived as a potential solution to some of the problems in the world's emergency departments (Tye, 1997, Hudson and Marshall, 2008, Keating et al., 2010, Woo et al., 2017, Bagley, 2018).

2.3.2 The Development of Emergency Nurses' Roles

The effort to initiate the transformation of emergency nurses' roles within the healthcare system was carried out by providing formal evidence for stakeholders and related parties. For instance, Snyder et al. (2006), in their historical article, highlighted that in the early 1970s the United States federal government through its Health, Education, and Welfare Secretary formed a committee to evaluate the feasibility to extend roles of nurses to address healthcare needs particularly in rural areas. The result showed that expanding the scope of nurses' practice was both necessary and able to give equal access to healthcare for both rural and urban residents. Such a finding had triggered other related organisations and institutions to respond accordingly. For instance, the American Nurses Association (ANA) reviewed nurses' scope of practice and suggested an addendum to nurse practice acts to allow nurses to perform emergency interventions once they had successfully received special training. Simultaneously, the Emergency Nurses Association (ENA) in the United States, developed policy and regulations related to emergency nurses' standards of practice. They began to partner up with universities across the United States to establish education and training programmes to enable emergency department nurses to perform advanced roles (Snyder et al., 2006).

Meanwhile in the United Kingdom, Crinson (1995b) pointed out that strategic developments within the National Health Service (NHS) and Community Care Act 1990 have led to a major challenge for nurses working in emergency departments. This situation led to the development the emergency nurse practitioner (ENP) qualification. In his survey across 54

departments providing ENP services across England, 50% of the respondents reported that the decision to integrate the ENP service in the emergency department was initiated purely by the nurses, while the remaining half stated that it was a collective initiative also involving management and medical colleagues.

Since the emergence of these roles, there has been legislation of practice among high-income countries in which the expansion of the emergency nurse practitioner role has occurred (Hudson and Marshall, 2008). According to the Emergency Nurses Association (ENA) and the College of Emergency Nursing Australasia (CENA), by the year of 2000, most of high-income countries, such as the United States and Australia have acknowledged emergency nursing as a nursing speciality, which requires advanced clinical knowledge and competencies, informed by regulations, formal registration, and a legal recognition of practice (ENA, 2011b, CENA, 2013).

Following such regulation, extensive evaluation of the emergency nurses' role has been conducted continuously to examine the impact and ability of the role to address and perhaps solve at least some emergency department issues (Carter and Chochinov, 2007, Innes et al., 2015, Jennings et al., 2015a, Woo et al., 2017). Moreover, to acknowledge contributions of the advanced roles professionally, literature across high-income countries reported that from the first inception of the role until recently there has been an increased in pay scale for nurses who undertake the role (Tye and Ross, 2000, Schriver et al., 2003, Norris and Melby, 2005, Hudson and Marshall, 2008, Keating et al., 2010, Fotheringham et al., 2011, Lloyd-Rees, 2016, Bagley, 2018, Boman et al., 2018). Moreover, the career pathway for emergency nurses pursuing an advanced practice role was already established (Fotheringham et al., 2011, RCN, 2017a, Bagley, 2018).

Based on the above narratives, it can be highlighted that in high-income countries there were four milestones in the role transition of emergency

nurses: (1) initiation, (2) establishment, (3) recognition, and (4) evaluation, as illustrated in Figure 3. It should be noted that these milestones did not occur in order, instead they were addressed iteratively during the process of emergency department nurses' role transition and were crucial elements in the transition's success.

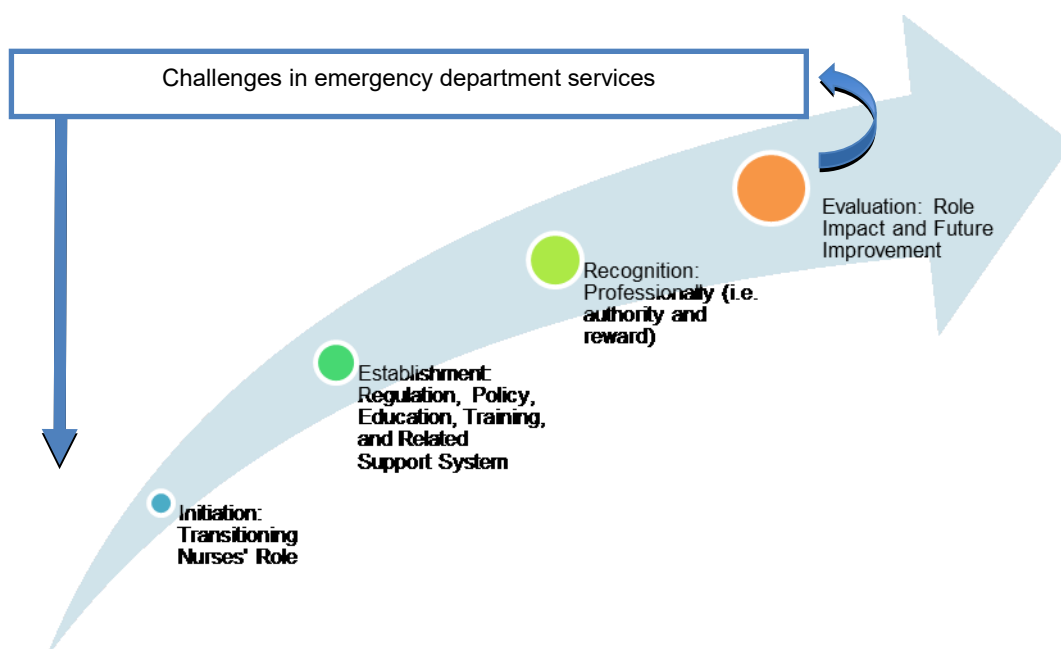


Figure 3. Milestones of emergency nurses' role transition

During the transition process particularly in high-income countries, the role of emergency nurses in the emergency department was evolving towards extended practice nursing and advanced practice nursing.

At the earlier phase of transition, extended practice nurses' roles were introduced. In Australia, the titles used for these roles are Clinical Initiative Nurse (CIN) and Advanced Clinical Nurse (ACN). Both roles were taken by senior nurses in emergency departments who had attended advanced clinical training. These roles emerged because policy and regulations relating to the authority invested in the nurse practitioner to perform advanced interventions had yet to be settled (Hodge et al., 2011). The focus of these roles was to initiate necessary investigations, such as x-ray ordering and

interpretation and basic examinations of minor illness and injury patients prior to further medical assessment (Hudson and Marshall, 2008, Hodge et al., 2011). The authors emphasised that these two roles were not considered as advanced roles, since nurses did not have complete autonomy to diagnose, discharge, prescribe or refer patients without a review from a physician. Extended roles was seen as opportunities to build a foundation and supporting system towards the implementation of nurse practitioner (NP) status and personnel in hospitals' emergency departments (Hudson and Marshall, 2008).

Other high-income countries such as the United Kingdom and United States also experienced a period of the extended role, although there was no specific title assigned to it. During early development of advanced roles, literature within these two countries showed that there was a gap in policy that regulated the authority of nurses to perform advanced interventions (Tye, 1997, Tye and Ross, 2000, Christofis, 2001, Snyder et al., 2006). Therefore, all the roles that existed during this period, whether referred to as a Clinical Initiative Nurse (CIN) or an Emergency Nurse Practitioner (ENP), were essentially extended roles. The reason behind this compromise was the lack of a formal policy that authorised all, or at least some, of the advanced interventions for these suggested new roles. Since the International Council of Nurses (ICN) emphasised that there are two main elements that inform Advanced Practice Nursing: (1) advanced nursing intervention and (2) the nurses' autonomy to perform the advanced nursing intervention (ICN, 2020).

Although there are more nomenclatures for role titles used to address advanced practice nurses in the review articles, realist analysis found that when related policy and regulations finally started to take shape, the development of the role of nurse practitioner types in emergency departments grows extensively. Examples of these classifications include: (1) *Emergency Nurse Practitioner* (ENP) (Shea and Selfridge-Thomas, 1997, Tye and Ross, 2000, Christofis, 2001, Chung, 2008, Hudson and Marshall,

2008, Fry and Rogers, 2009, Keating et al., 2010, Lowe, 2010, Fotheringham et al., 2011, Melby et al., 2011, Hoskins, 2012, Roche et al., 2017, Bagley, 2018),

(2) *Advanced Nurse Practitioner* (ANP) (Griffin and Melby, 2006),

(3) *Acute Care Nurse Practitioner* (ACNP) (Norris and Melby, 2006),

(4) *Acute Nurse Practitioner* (Bryson, 2016), and

(5) *Transitional Emergency Nurse Practitioner* (TENP) (Fry and Rogers, 2009).

Furthermore, it is worth considering that the Clinical Nurse Specialist (CNS) role did not receive as much as attention as the Emergency Nurse Practitioner (ENP) role in the examined literature. Unfortunately, there is no explicit information that can explain this lack of attention. However, this trend can be analysed by looking at the key roles that are only possessed by an ENP, as a CNS does not have the same level of authority. The roles of an ENP include: (1) diagnosing, (2) ordering and (3) interpreting diagnostic test, (4) giving treatment, (5) prescribing drugs, and (6) referring or discharging patients autonomously (ENA, 2011a, ENA, 2011b, ICN, 2020). As highlighted within the literature, the driving forces behind the development of nurses' roles in emergency departments are directed towards shortening waiting times for minor injury or illness patients (Norris and Melby, 2005, Snyder et al., 2006, Cashin et al., 2007, Chung, 2008, Keating et al., 2010, Lowe, 2010, Hodge et al., 2011, Bagley, 2018). Thus, these goals can be achieved by extending nurses' role towards the 'nurse practitioner' role, since nurse practitioners are equipped with the authority to disentangle issues in emergency departments. Therefore, related parties invested more towards the development of 'nurse practitioners' than 'clinical nurse specialists' in emergency department settings.

Since the included literature showed that advanced practice nurses' roles in emergency departments oriented towards nurse practitioner types, the remaining sections in this review will focus solely on nurse practitioners.

2.3.3 The Implementation of Nurse Practitioner Services

Common to high-income countries, such as the United Kingdom and United States, was an initial resistance to the implementation of a nurse practitioner service. Blurring boundaries of the nurse practitioner role created uncertainty, which lead to intra- and interprofessional conflict (Tye and Ross, 2000, Christofis, 2001, Norris and Melby, 2005). Moreover, some nursing colleagues believe that nursing should not strive to obtain legal recognition to perform medical tasks, such as diagnosing and prescribing drugs, because nursing has its own body of knowledge (Christofis, 2001). These concerned nurses are also worried that by carrying out medical tasks, those nurses would be obliged to provide lower quality nursing interventions; as a result, the title of 'advanced practice nurse' would only be seen as another term for a physician's 'extender' or aid (Christofis, 2001). However, as the nurse practitioner's role developed, related parties have made efforts to improve the clarity of emergency nurse practitioner's role in emergency departments (Karanikola et al., 2017, Bagley, 2018).

These following sections discuss key findings in the literature relating to the implementation of nurse practitioner services, including: (1) scope of practice and professional standards, (2) preparatory education, and (3) clinical practice guidelines.

2.3.3.1 Scope of Practice and Professional Standards

The International Council of Nurses (ICN) defines the scope of practice for the nurse practitioner as *"the range of activities (procedures, actions, processes) that a nurse practitioner is legally permitted to perform"* (ICN, 2020, p.18). Professional organisations in the same agreement that features of autonomous role of the nurse practitioner include the following roles or duties: (1) prescribing, (2) diagnosing, (3) requesting X-ray examination and interpreting, and (4) treating minor injury or illness patients (ENA, 2011b,

RCN, 2012, Canadian Nurses Association [CNA], 2019, ICN, 2020). However, in the implementation, the scope of a nurse practitioner's practice is influenced by the 'host' country's nurse practice act, together with local emergency department regulations (Snyder et al., 2006). For instance, Hudson and Marshall (2008) identified in their study that there are various role descriptions of emergency nurse practitioner in Australia, the United Kingdom, and the United States. Therefore, the responsibilities and procedures performed by a nurse practitioner in emergency departments vary globally (Christofis, 2001, Griffin and Melby, 2006, Melby et al., 2011, Bagley, 2018).

In some emergency departments, an emergency nurse practitioner only focuses on minor illness or injury patients, while in others their role allows for the treatment of more severe patients in collaboration with physicians (Bagley, 2018). In the United Kingdom, there are different titles designated for these two different roles: Emergency Nurse Practitioner (ENP) and Advanced Nurse Practitioner (ANP) (RCN, 2012). It is also noted that there are some emergency departments in which the scope of practice is more flexible; with emergency nurse practitioners moving between minor and severe cases as necessary (Bagley, 2018).

These differences emerge because the defining of the scope of practice is highly dependent upon local policy and regulations (Snyder et al., 2006). Unfortunately, there was no further discussion in the literature that addressed the underlying circumstances or contexts behind policy makers' decisions to adopt one particular scope of practice in preference to another. A study by Roche et al. (2017) provides an insight into factors that may influence such decisions. The authors underlined that different types of emergency departments will have different needs based on the characteristics of the services they provide. For example, in an urban (metropolitan) emergency department, where health services are delivered by dedicated specialists, the scope of practice of the emergency nurse practitioner (ENP) is likely to be

focused on patients with minor injury or illness. However, in a rural emergency department, where there is only a very limited number of physicians available, or perhaps even no physician, the ENP would cover all patients' acuities across a wide variety of diagnoses (Roche et al., 2017). In addition, patient flow or throughput is an important factor that affects the working patterns of emergency nurse practitioners whether in rural or urban contexts. For instance, although an emergency department (ED) may have decided to separate their minor injury unit (fast-track) and acute care area into two different streams, when that ED is flooded with patients emergency nurse practitioners often need to deliver care for both streams (Bagley, 2018).

The issue of clarity relating to the scope of nurses' practice is central to the development of the nurse practitioner's role. The scope of practice allowed defines the competency of the nurse practitioner, performance which is linked to the educational programmes and professional standards associated with the role; thus these elements influence each other (ICN, 2020). It was evident across the literature that the 'unclear scope of practice problem' led to issues in credentialing (Christofis, 2001, Bagley, 2018), certification (Snyder et al., 2006, Trisyani and Windsor, 2019), and accreditation (Melby et al., 2011).

2.3.3.2 Preparatory Education

At the beginning phase of the development of the nurse practitioner role, the education for nurses who wished to take on the role was through on-the-job training (Fry and Rogers, 2009, Fotheringham et al., 2011, Bryson, 2016). Physicians were reported as key professionals who could provide initial work-based training for nurse practitioner candidates (Shea and Selfridge-Thomas, 1997, Snyder et al., 2006, Fry and Rogers, 2009). Case studies (Shea and Selfridge-Thomas, 1997, Lowe, 2010), preceptorship, mentorship, or supervision (Shea and Selfridge-Thomas, 1997, Schriver et al., 2003, Snyder et al., 2006, Chung, 2008, Fry and Rogers, 2009, Keating et al., 2010, Lowe,

2010, Melby et al., 2011) were other upgrading initiatives reported in the literature as methods of clinical learning. During this phase, there is evident global inconsistency in the preparatory education employed to develop nurse practitioners (Fry and Rogers, 2009, Fotheringham et al., 2011, Melby et al., 2011, Bryson, 2016). The main reason for this asymmetry was that the development of educational training initiatives became the responsibility of individual institutions; each of which had their own unique set of priorities (Hudson and Marshall, 2008).

At the later phase of the nurse practitioners' role development, the preparatory programme for a nurse practitioner role moved to become standardised; either via a university or formal accredited work-based training. Although this disparity still exist across countries, a postgraduate level qualification (e.g., postgraduate certificate, postgraduate diploma or full master's degree) is now considered to be the minimum standard required for nurse practitioner education (Health Education England [HEE], 2017, Canadian Nurses Association [CNA], 2019, Emergency Nurses Association [ENA], 2019).

In their latest guidelines on advanced practice nursing, the International Council of Nurses (ICN, 2020) emphasised that all existing educational programmes for nurse practitioner roles must address an advanced level of competency in clinical settings. Therefore, preparatory education for a nurse practitioner's role must include supervised clinical hours with a senior medical colleague or an experienced nurse practitioner. In the United Kingdom and United States, a minimum of 500 hours is the prerequisite for supervised clinical practice in their nurse practitioner education programmes (RCN, 2012, National Task Force [NTF], 2016); in New Zealand the requirement is 300 hours (Nursing Council of New Zealand [NCNZ], 2015). Moreover, ICN (2020) does not recommend non-specific master's degree programmes, such as nursing management, research, or education as a

pathway for nurse practitioner education as these programmes alone are considered insufficient for the preparation of a nurse practitioner's role.

Health Education England (HEE) recently published a multi-professional framework informing the field of advanced clinical practice. This framework allows health and care professionals, including nurses, pharmacists, paramedics, and occupational therapists, to develop their skills and knowledge to take on expanded scopes of practice in an effort to meet clients' needs. The framework sets four common required capabilities: (1) clinical practice, (2) leadership and management, (3) education, and (4) research; so enabling standardisation in education and development of the advanced clinical practice role (HEE, 2017). Preparing a flexible workforce by developing shared core competencies is the central principle of this framework. Within the context of the nursing workforces in emergency departments, the future preparatory education for nurses using this framework could possibly cover different levels of acuity, including patients with minor and more severe injuries or illnesses.

2.3.3.3 Clinical Practice Guidelines

In delivering care, emergency nurse practitioners use clinical practice guidelines. There are two types of clinical practice guidelines evident in the reviewed literature:

- (1) *algorithms*, which consist of steps or decisions in managing patients (Shea and Selfridge-Thomas, 1997, Considine et al., 2006, Hodge et al., 2011, Melby et al., 2011, Roche et al., 2017) and
- (2) *work protocols*, which contain responsibilities and regulations of nurse practitioners (Tye, 1997, Hudson and Marshall, 2008, Bagley, 2018, Fox et al., 2018).

Examples of the algorithm mentioned in the literature are those used for extremity injuries, laceration and wound management, minor burn injury, vomiting and diarrhoea (Considine et al., 2006), and ST-Elevation Myocardial

Infarct (STEMI) management (Roche et al., 2017). Similar to other policies, these guidelines are independently interpreted by each emergency department.

There have been debates in the literature around the relative strengths and weaknesses of using clinical practice guidelines when managing patients in an emergency department. The use of such guidelines was perceived as necessary to ensure the standards, safety, and quality of care provided by emergency nurse practitioners (Shea and Selfridge-Thomas, 1997, Norris and Melby, 2006, Hudson and Marshall, 2008, Hodge et al., 2011, Melby et al., 2011, Roche et al., 2017, Bagley, 2018, Fox et al., 2018). However, work protocols are often outdated and are therefore likely to diminish the effectiveness of an emergency department's services since those guidelines tend to limit the scope of the nurse practitioners' roles (Bagley, 2018, Fox et al., 2018); thus, it is possible that patients may not receive appropriate care (Roche et al., 2017). Moreover, using algorithms to assist clinical decision-making can also lead to a dilemma. For nurse practitioner candidates or new qualified nurse practitioners, algorithms may help them to construct and make their clinical judgment. However, it is also possible that over time their ability to use their relevant knowledge (based on education and experience) to make decisions regarding different, rare or outlier clinical cases may decrease, particularly if they have heavily depended on algorithms for guidance (Hodge et al., 2011, Melby et al., 2011).

2.3.4 Role Evaluation

Primary studies included in this review reported eight outcome indicators that were used to evaluate advanced practice nurse services in emergency departments, including (1) length of stay, (2) waiting times, (3) satisfaction, (4) unexpected return rate, (5) patient left without being seen, (6) cost implication, (7) analgesia management, and (8) radiology investigation (Table 1).

The first outcome relates to the length of stay, which is based on discharge time recorded by when the patient leaves the emergency department. Following the implementation of the advanced practice nurse's role, three quantitative studies showed that the average length of stay for emergency department (ED) patients was reduced in the emergency nurse practitioner (ENP) group when compared to the emergency physician group by 76 minutes (Jennings et al., 2008), 48 minutes (Hodge et al., 2011), and 40 minutes (Colligan et al., 2011). Meanwhile, two other quantitative studies conducted by (Steiner et al., 2015) and (Roche et al., 2017) found no significant difference concerning a patient's length of stay. One study also stated that the length of stay for ED patients was reduced from 3.28 to 3.08 hours following the introduction of emergency nurse practitioners (Fry and Rogers, 2009). However, there is no further information on whether the study used a comparison group or not.

Table 1. Reported outcome indicators from included primary studies

Outcome Indicators	References
Length of stay	(Jennings et al., 2008, Fry and Rogers, 2009, Colligan et al., 2011, Hodge et al., 2011, Steiner et al., 2015, Roche et al., 2017)
Waiting times	(Norris and Melby, 2005, Griffin and Melby, 2006, Jennings et al., 2008, Colligan et al., 2011, Fotheringham et al., 2011, Hodge et al., 2011, Dinh et al., 2012, Thompson and Meskell, 2012, Steiner et al., 2015)
Satisfaction	(Crinson, 1995b, Norris and Melby, 2005, Griffin and Melby, 2006, Fry and Rogers, 2009, Dinh et al., 2012, Roche et al., 2017)
Unexpected return rate	(Colligan et al., 2011, Roche et al., 2017)
Patient left without being seen	(Colligan et al., 2011, Steiner et al., 2015)
Cost implication	(Crinson, 1995b, Tye and Ross, 2000, Griffin and Melby, 2006, Melby et al., 2011, McClellan et al., 2013, Bryson, 2016)
Analgesia management	(Thompson and Meskell, 2012, Jennings et al., 2015b)
Radiology investigation	(Thompson and Meskell, 2012)

The disparities within the outcome for patients' length of stay could be caused by the different characteristics of emergency nurse practitioners and emergency physicians of the two comparison groups included in the studies. The characteristics included the level of experience, knowledge, skill, and area of practice, whether the focus was on minor injury and illness or more severe conditions (Jennings et al., 2008, Colligan et al., 2011, Roche et al., 2017). Unfortunately, such important information was not reported comprehensively in these studies. The same issues were also noted in the measurement of the rest of the outcome indicators. An effort to address these issues had been made by stratifying the patients based on triage categories. However, the measurement for length of stay was highly dependent on the accuracy of the recorded time (Jennings et al., 2008). According to the authors, the accuracy was influenced by many factors, such as the clinicians' workload and availability.

Waiting times are the time that passes before a patient is seen by a clinician; data was based either on opinions or statistics. Qualitatively, nurses and physicians believed that advanced practice nurses reduced patients' waiting times (Norris and Melby, 2005, Griffin and Melby, 2006, Melby et al., 2011, Fotheringham et al., 2011, Bryson, 2016). Meanwhile, statistically, the waiting times were shorter when advanced practice nurses were involved in the service provision (Jennings et al., 2008, Colligan et al., 2011, Hodge et al., 2011, Dinh et al., 2012, Thompson and Meskell, 2012, Steiner et al., 2015). One study found no significant differences in waiting times (Roche et al., 2017).

Bryson (2016) noted that reduced patient waiting times may not be caused by advanced nurse practitioner services alone, since in her study it was pointed out other initiatives had been introduced into the emergency department at the same time. However, the author failed to identify the nature or type of the initiatives that she alluded to. Moreover, Considine et al. (2010) and Colligan et al. (2011) stated that differences in knowledge, skill,

and scope of practice between the two comparative clinician groups (emergency nurse practitioners and physicians) may alter the measurement of waiting times. For instance, emergency nurse practitioners may only focus on patients with minor illness, while physicians may have to cover patients with both minor and severe conditions (Colligan et al., 2011). Besides, according to Considine et al. (2010), the physicians included in their study were often junior registrars, who sometimes needed to seek advice from their seniors. These two confounding factors may have led to the increased patient waiting times evident in the physicians' groups compared to the emergency nurse practitioners' groups.

Thirdly, the outcome indicator relates to satisfaction. The term 'satisfaction' reflects the opinions of patients, nurses, and physicians regarding the service delivered by advanced practice nurses. The results showed: (1) patients were satisfied with the service (Crimson, 1995b, Dinh et al., 2012, Roche et al., 2017), (2) physicians were satisfied with how well advanced practice nurses managed patients (Fry and Rogers, 2009), and (3) nurses and physicians perceived that advanced practice nurses increased patients' satisfaction levels with the services provided (Norris and Melby, 2005, Griffin and Melby, 2006).

The patient satisfaction outcome also received criticism. In her literature review, Hoskins (2011) highlighted that better communication and depth of explanation or advice provided by the emergency nurse practitioner (ENP) were key factors supporting the high satisfaction levels among patients with minor illness or injury. However, one could argue that as physicians might also have to cover more severe patients, communication may be more difficult for them as they needed to prioritise seriously unwell patients. Nevertheless, Hoskins highlighted that some studies reported that the length of the consultation time of emergency nurse practitioners was similar to their medical colleagues. This circumstance means that other factors may

influence the high satisfaction levels of patients towards ENP consultation. Further research is required for to understand these influencing factors.

Unexpected return rate refers to the unplanned return of a patient to the emergency department, resulting from their initial issue, which reflects diagnostic accuracy performed by the emergency nurse practitioner (ENP) and emergency physician (EP) group. The rate was lower if patients were managed by the ENP group, compared to the EP group (Roche et al., 2017). Meanwhile, in another study, the rate was higher in the ENP group when compared to the EP group (Colligan et al., 2011). Such findings were resulted by different characteristics of the two comparison groups as has been discussed above.

Moreover, following the implementation of ENP services, one study showed that there is no significant improvement in patients left without being seen rate in the emergency department (Steiner et al., 2015). Meanwhile, another study reported that fewer patients left when an ENP was rostered (Colligan et al., 2011). However, the authors highlighted the number of both emergency nurse practitioners and emergency physicians allocated in the ED influenced the rate. This circumstance suggested that there are many factors pertinent to fewer patients left without being seen not solely because of ENP services.

The sixth outcome concerns cost implications of the advanced practice nurses' service. Five studies reported that the advanced practice nurse service was cost-effective (Crinson, 1995b, Tye and Ross, 2000, Griffin and Melby, 2006, Melby et al., 2011, Bryson, 2016). However, the findings were based on opinions provided by clinicians or managers. There is no statistical data available that could support their judgements. Only one randomised, pragmatic trial study was identified that measured cost-effectiveness of soft tissue injury management. That study used economic evaluation of a cost-minimisation analysis, which included data relating to direct and indirect costs as well as educational cost (McClellan et al., 2013). The findings from

the economic analysis suggested that the care provided by emergency nurse practitioners could prove more expensive, when compared to emergency physicians.

Analgesia management measured two outcomes. Firstly, was the time from the patient's registration until the administration of analgesia (Jennings et al., 2015b). This pragmatic randomised controlled trial study demonstrated the effectiveness of emergency nurse practitioners in achieving timely analgesia for emergency patients. Secondly, the numbers of patients not offered analgesia by clinicians were measured (Thompson and Meskell, 2012). The result showed that emergency nurse practitioners had the second lowest rate of not offering analgesia among four other different clinicians' groups.

The last outcome links to radiological investigation, which is concerned about the false negative and false positive results of X-ray interpretation (Thompson and Meskell, 2012). The result indicated that emergency nurse practitioners had the second lowest number of false negative result and the third lowest number of false positive result in X-ray interpretations, when compared to four other clinician groups.

Two recent systematic review papers, which aimed to evaluate quality of care, clinical outcomes, patient satisfaction, waiting times, and cost of advanced practice service in emergency departments reported some difficulties when synthesising the data from primary studies (Jennings et al., 2015a, Woo et al., 2017). They emphasised that differences in role titles, scope of practice, levels of interventions, and outcome indicators used in primary studies prevented their analysis from being carried out appropriately. Woo et al. (2017) added that lack of explanations regarding educational preparation of the evaluated roles made any efforts to compare the included studies less relevant or viable.

Using the realist review concept by Wong et al. (2013) and Wong (2018), as explained in section [2.2.3 Identification, Selection, and Appraisal](#), the quality of role evaluation studies included in this review can be concluded as follows. The evaluation studies incorporated both primary and secondary studies with various methodologies to measure different impacts of advanced practice nurses in the emergency departments. However, the studies only provided a limited causal explanation. There was a lack of information reported in the studies regarding the contexts, such as the scope of practice and preparatory education, in which the emergency nurse practitioner (ENP) was implemented. This circumstance raised concerns regarding the implementation of ENP and how to evaluate the impacts of the service. Moreover, because of the limited causal explanation, how ENP services work in producing the impacts and under what circumstances remain unexplored.

2.4 Discussion

To the best of my knowledge, this review is the first to analyse the issue of emergency nurses' role transition through the use of a realist approach. Results presented in this chapter evident a transition towards advanced practice nurse's role in emergency departments as well as its characteristics. Results regarding context-mechanism-outcome interactions found in the literature will be presented in the [Chapter 7: Discussion](#) of this study. This information forms part of the analytical process of configuring realist causal explanations regarding the issue of emergency nurses' role transition.

The literature review revealed that there are relatively similar needs driving the transformation of emergency nurses' role towards advanced roles among high-income countries. However, in low- and middle-income countries, such as Ghana and Sri Lanka, the driving force to transform emergency nurses' role is more because there is an urgent need to improve the knowledge and skill levels of emergency nurses in order for them to provide safe, high standard professional care to their patients (Charlton et al., 2011, Bell et al.,

2014, Scott and Brysiewicz, 2016). Poor pre-hospital emergency systems also contribute to this need (Charlton et al., 2011, Bell et al., 2014).

Therefore, instead of performing advanced key nursing interventions, such as prescribing drugs, ordering and interpreting diagnostic test results, as well as treating minor illness and injury patients autonomously, as part of their roles in emergency departments of high-income countries (ENA, 2011b, CENA, 2013, RCN, 2017a), nurses in low- and middle-income countries are currently expected to maintain standard outcomes of emergency patients. Among these outcomes is the prevention of disability and the minimisation of mortality in everyday cases (Charlton et al., 2011, Bell et al., 2014, Scott and Brysiewicz, 2016).

Efforts to improve the knowledge and skill levels of emergency nurses in low- and middle-income countries should include strategies to address limited resources related to emergency nursing education. Priority issues should include access to pursue higher education, funding, availability of training, and expert clinical educators (Bell et al., 2013, Scott and Brysiewicz, 2016). These recommendations also resonate with two studies included in the review; from Indonesia (Trisyani and Windsor, 2019) and Greece (Karanikola et al., 2017), where emergency nurses' roles are still considered underdeveloped and needed resources are limited. The focus of transformation around emergency nursing in these two countries remains to implement standardised and accredited post-graduate education programmes, award the needed nurses with professional authority to carry out their advanced duties, and for those qualified nurses to participate in clinical decision-making and policy development. These discrepancies of issues reflect differing priorities of emergency nurses' development across countries.

Furthermore, the review findings emphasise the importance of understanding contexts and influential factors when developing, implementing, and

evaluating advanced practice nurses' roles. A context in a realist study does not always link to geographical location; it can be a policy or circumstances in which the transition of the role occurs. For instance, the review highlighted some difficulties, such as interprofessional conflict regarding, and resistance to, the implementation of the role, which occurred because of unclear definitions informing the scope of practice issue. A scope of practice is an important context in the development and implementation of an advanced practice nurse's role. Moreover, defining a scope of practice is highly dependent on the host country and the relevant healthcare context or even the local emergency departments, where the advanced nurses will practice. This example shows that contexts may range from the micro-focus of an institution to a country-wide organisational context.

Contexts also produce ripple effects towards another factor within the development of emergency nurses' roles; one being educational preparation. Standard disparities in preparatory education were apparent in the implementation of advanced practice nurse education programmes across countries, as noted in the current review. Such confusion was largely the result of unclear definitions regarding what exactly was involved in scope of practice. Lloyd-Rees (2016) suggested that there is an urgent need to establish an international standard of advanced practice nurses' roles, titles, and competencies. However, other researcher disagree with this notion. Kang (2005) and O'Connell and Gardner (2012) argued that it is not necessary to standardise advanced practice competencies because each country may have different regulations, problems, priorities, and resources. However, for the sake of pragmatism and efficiency it has been recommended that at least the core competencies expected of the advanced practice should be internationally standardised (Currie et al., 2007).

The practice context is also crucial in evaluating advanced practice nurse's role and performance. The review findings showed that the lack of discussion regarding contexts within evaluation studies made it difficult to analyse,

interpret the results, and draw any valid conclusions. The review suggests that an evaluation study should include an explanation about whether the included emergency departments operated separate fast-track (minor injury) and acute care units or joined them together. It should be clear whether emergency nurse practitioners are working in these two units or only fast-track unit, as well as specifying their levels and areas of responsibility. Contextual factors related to advanced practice nursing performance, such as pay system, legal regulations, and educational preparation should also be taken into consideration. By taking the actions suggested above comparisons between countries or professional groups could become both more relevant and meaningful.

It is worth considering a study by Jennings et al. (2015b). Jennings et al. (2015b) conducted a pragmatic randomised controlled trial to evaluate the effectiveness of achieving timely analgesia by the nurses in an emergency department. They presented clear contexts informing the emergency nurse practitioner service in their study. It was explained that emergency nurse practitioners only cover the fast-track zone and were therefore responsible for timely assessment, treatment, and discharge of minor injury and illness patients. The authors also provided the working hours of the emergency practitioners, which ranged between 07.00 and 23.30. Moreover, they acknowledged that other contexts, such as model of care and individual factors, may influence the ability of emergency nurse practitioners to administer analgesia within 30 minutes. However, how these contexts interact with other factors remains unknown; it is therefore suggested that the issue of how individual factors influence timely analgesia warrants further exploration.

2.5 Summary

This chapter has presented a review of the literature relating to the issue of emergency nurses' role transition. The review has shown that there is

evidence of a transition towards advanced practice nurse's roles in the emergency department. It is noted that the development, implementation, and evaluation of emergency nurses' roles depends on the context, where the role embedded, including emergency department settings, scope of practice, preparatory training, and model of care. It is noted that standard disparities are exist in the implementation of the roles.

The review emphasises that the rate and type of emergency nurses' role development varies across countries based on country-specific needs, resources, and problems. It is noted that high-income countries have a well-established advanced practice nurse presence in their hospitals. However, low- and middle-income countries including Indonesia, have more fundamental needs, such as providing adequate education and training for emergency nurses with access to only limited resources.

Moreover, the review highlights that the impact of the advanced practice nurse's role in emergency departments has been widely explored and evaluated using different methods, including qualitative, quantitative, and systematic review. However, there was no study found that used a realist approach. Therefore, the transition process of the role, from the development, implementation, and evaluation; including how the role works, for whom, and under what circumstances, are all issues that remain unexplored. A comprehensive understanding of these processes is required to provides better evidence, insights, and explanations to interested parties who would like to integrate advanced practice nurse service in their emergency departments. Moreover, there is still a lack of published study around emergency nurses' roles in Indonesia. Consequently, a qualitative realist approach is warranted to facilitate exploration into the emergency nurses' roles in Indonesia. Therefore, a study aiming to understand that practice was proposed and is further detailed in the next chapter.

Chapter 3: Research Design and Methods

3.1 Introduction

The research design and methods of this study were built based on the results gathered from the literature review. In [Chapter 2: Realist-Informed Review](#), I have highlighted that there is a gap particularly within contributory factors of the: (a) development, (b) implementation, and (c) evaluation of advanced practice nurses in the emergency department. Therefore, how advanced practice nursing works (or not), for whom, what potential impacts the practice offers for clinical outcomes and wider organisations, and under what circumstances are all issues that remain unexplored. The literature review also emphasises that there are disparities in the implementation of advanced practice nurse across countries. Besides, the development of emergency nurses' roles is unique to each country, as evident in different focal points, priorities, and needs in high- and low- and middle-income countries. Moreover, little is known about the current development of emergency nurses' roles in Indonesia due to a lack of published studies. Only one study from Indonesia was eligible to be included in the review.

A realist approach to this qualitative study was deemed appropriate to answer the research questions in the current study and to achieve the research aim. In this chapter, I provide a comprehensive explanation and justification for conducting a qualitative realist study. The chapter covers six parts: (1) research aim and questions, (2) philosophical stance, (3) methods, (4) data analysis, (5) reflexivity, and (6) methodological rigour.

3.2 Research Aim and Questions

The overall aim of this study is to understand interactions of the contributory factors that shape emergency nurses' roles in a major Indonesian hospital's

emergency department. Four specific research questions were addressed to achieve the aim:

1. What are the individual, organisational, and social contexts that influence the emergency nurses' role?
2. What mechanisms occur (or do not occur) around the role shaping?
3. What outcomes are produced from the process?
4. How do the contexts and mechanisms interplay with each other in producing the outcomes?

3.3 Philosophical Stance

In order to answer research questions, researchers should have research paradigms (Guba, 1990). The paradigms, such as ontology, epistemology, and methodology, aim to guide researchers as they attempt to interpret and generate knowledge claims about the reality of the investigated topic (Guba, 1990).

This study was informed by realist ontology and constructivist epistemology. There is no agreement on a term for this position, although many philosophers and social scientists have presented similar views. For the purpose of informing this study I used the term 'critical realism' generated by Maxwell (2012) to refer to the combination of ontological realism and epistemological constructivism. Critical realism was defined by Maxwell (2012) as:

"retain an ontological realism (there is a real world that exist independently of our perceptions, theories, and constructions) while accepting a form of epistemological constructivism (our understanding of this world is inevitably a construction from our own perspectives and standpoint)." (p.5)

Critical realism (CR) is positioned in between positivist and interpretivist paradigms. It is a concept that acknowledges: (a) how social actors interpret a given phenomenon, as well as (b) the existence of independent structures that enable and disable the actors to behave in particular circumstances (Wynn and Williams, 2012). The authors highlighted that epistemological constructivism in CR focuses on exploring causality by unpacking mechanisms, which are influenced by the interactions between human agencies and their structures, i.e., circumstances that affect the human agency. Therefore, causation in the CR is not based on regular successions but generative mechanisms (Sayer, 2000). According to Williams et al. (2017), generative mechanisms aim to understand an individual's actions towards particular phenomena and explain how structures influence these phenomena as well as the actions chosen. Meanwhile ontological realism in CR concentrates on understanding the stratified reality of the phenomena of interest (Bhaskar, 1975).

The following three sections will further explain ontology, epistemology, and methodology assumptions and principles of critical realism.

3.3.1 Ontological Stance

Ontological assumptions refer to beliefs about the nature of an object under the study, including physical and social reality, and the relative view of humans about whether this reality exists objectively or subjectively (Chua, 1986). The ontology of my study was based on the two assumptions of mind-independent reality and stratified reality, as explained below.

3.3.1.1 Mind-Independent Reality

Critical realism (CR) believes that there are real-world and entities independent of human knowledge and our ability to comprehend them (Sayer, 2000). Entities in CR refer to objects or things, which include “*a persistent whole formed from a set of parts that is structured by the relations*

between these parts” (Elder-Vass, 2010, p.17). This independence means that the real world is not easily reducible to a human perception of reality. Thus, human knowledge or experience of the reality is only partial (Wynn and Williams, 2012).

As a consequence, research rooted in critical realism (CR) investigates two dimensions of science: intransitive and transitive, in which each has different components of real entities (Bhaskar, 1975). The intransitive dimension means that entities of the world work independently of the human ability to understand how the world works. Whereas, transitive dimension means that human knowledge, beliefs, perceptions, and experiences of these entities are constantly subject to change, revision, and reinterpretation (Danermark et al., 2002). Therefore, CR acknowledges thought-objects such as human beliefs or perceptions about the entities that form reality, which constantly subject to change, to be ontologically real but different from the entities themselves (Wynn and Williams, 2012).

3.3.1.2 Stratified Reality

The reality in critical realism is stratified into three domains (Bhaskar, 1975). Firstly, the empirical domain includes human experiences of events. Such experiences can be observed or measured but always mediated through human interpretation (Danermark et al., 2019). This domain is the transitive level of reality (Fletcher, 2016). Secondly, the actual domain includes the events that happen when emergent properties of structures and entities are enacted, whether they may or may not have humans observe, interpret or experience them (Fletcher, 2016, Schiller, 2016). At this level, the true events are often distinct from what can be observed at the empirical level (Danermark et al., 2002). Thirdly, the ‘real domain’ is where mechanisms exist of which contribute to the construction of events that can be experienced by humans in the empirical domain (Jagosh, 2018) (Figure 4).

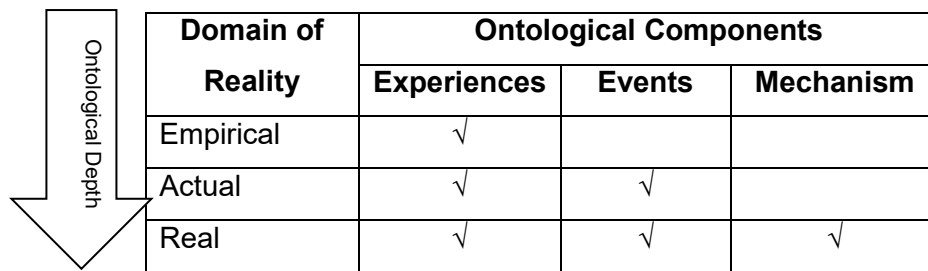


Figure 4. Stratified reality of critical realism adapted from Bhaskar (1975, p.13)

Moreover, according to Wynn and Williams (2012), these ontological views suggest that events in the ‘actual’ domain that happen because a mechanism is triggered, are not always interpreted as experiences in the empirical domain. Similarly, there are mechanisms, which exist in the real domain but are not triggered yet, or are triggered but neutralised by other mechanisms, and therefore do not generate events in the domain of the ‘actual’ (Wynn and Williams, 2012). Unpacked mechanisms, which are nested in the ‘real’ domain, are the main goal of critical realism. Such mechanisms can explain: (a) social interaction, (b) interdependent relationships between the agencies, (c) their roles in the social structure through causation and (d) the influences they bring throughout the three-layers of reality (Danermark et al., 2019).

These views of reality have implications for the principles of epistemology and methodology upon which this study is built. In the following sections, I will clarify and discuss some of key ontological components of critical realism in more detail.

Experiences

Experiences refer to events which can be observed through our senses or by interpretation (Wynn and Williams, 2012). The authors highlight that critical realism acknowledges that experiences are only a part of the actual events produced in a given context. It may be possible to experience events directly, however, in real-life situations, such direct observation is rarely possible (Collier, 1994). Moreover, only part of the entirety of the events that actually

happen and the mechanisms generating them can be directly observed (Wynn and Williams, 2012).

Events

An event refers to *“a specific happening or action resulting from the enactment of one or more mechanisms”* (Wynn and Williams, 2012, p.792). Ontologically, events are different from the mechanism that produces them (Bhaskar, 1975). Various events may be generated from one mechanism; however, direction of actual events may also vary because of the neutralising effect of one or more other mechanisms (Gambetta, 1998).

Mechanisms

Conceptually, a mechanism can refer to causal power or tendency (Sayer, 1992, Fleetwood, 2005, Smith, 2007). However, Wynn and Williams (2012) highlight that tendencies move beyond powers to distinguish specific types of behaviours from others. A clear example of the difference between ‘power’ and ‘tendency’ is provided by Bhaskar; *“all men...possess the power to steal; kleptomaniacs possess the tendency to do so”* (Bhaskar, 1975, p.230).

Entities usually have a set of powers, which can or cannot be enacted in a given context to trigger the events shown or perceived as empirical experiences (Wynn and Williams, 2012). Human agencies, as a part of the social structure, should be considered as having causal power towards events because of their reasonings of how something does or does not work and how such reasoning influences outcomes (Bhaskar, 1998, Groff, 2004). The reasoning is linked to a tendency to behave in particular ways (Bhaskar, 1998).

Therefore, critical realism sees agency reasoning, which may lead to particular actions, as the generative mechanism that can trigger the ‘following mechanisms’ of other entities within the social structure, resulting in intended or unintended outcomes (Wynn and Williams, 2012). However, such

reasoning or beliefs certainly do not govern final outcomes. Other entities, such as 'social structure' and 'regulation' are also possible, becoming the power resources that, together with agencies' reasoning, bring causal effects (Wynn and Williams, 2012).

Social Structure, Human Agency, and Emergence

'Structure' in critical realism is defined as the "*set of internally related objects of practices*" (Danermark et al., 2002, p.47). Meanwhile, 'social structure' refers to social factors that have causal powers that can influence particular social groups of human agency (Elder-Vass, 2010). There has been extensive debate about what social structure really is and how it could affect human agency (Elder-Vass, 2010). Some scholars question whether such social structure can really influence human agency or is it just the effect of individual behaviour (Elder-Vass, 2010)? Thus, "*they can only explain social effects on the basis of the actions of the individuals who make up society*" (Elder-Vass, 2010, p.2). However, issues between 'social structure' and 'human agency' can be catalysed using the concept of emergence (Elder-Vass, 2010).

'Emergence' suggests that entities can have properties or capabilities or power that are not owned by their components (Elder-Vass, 2010). Such powers, therefore, rely upon not only entities clustered from their components but also synchronic effects produced from the pattern of their organisation (Wynn and Williams, 2012). This concept contributes to the potential explanation of how a particular entity can bring its own causal influence: "*a causal impact that is not just the sum of the impacts its parts would have if they were not organised into this kind of whole*" (Elder-Vass, 2010, p.5). Therefore, the author emphasises that instead of assigning causal impact to an abstract concept of social structure, such 'emergence' acknowledges that socially structured power is possessed by particular groups of agencies. The social world consists of many overlapping groups, with each group having the power to influence individuals. However, these

powers, in each case rely on interactions among individuals within the group, and the individuals themselves also have powers. The social world, therefore, is generated by the causal power interactions coming from both social structure and human agency (Elder-Vass, 2010).

3.3.2 Epistemological Stance

Epistemology provides a philosophical grounding on how to gain knowledge and how to discover new knowledge (Crotty, 1998). Epistemological stance addresses questions focusing on *“how to acquire and develop knowledge claims, how to evaluate the truth or validity of these claims, and how these claims are to be measured against existing knowledge”* (Wynn and Williams, 2012, p.793). In realist thinking, mechanisms are the engine of change (Pawson and Tilley, 1997). Therefore, Williams (2018) suggests that the epistemological stance of realist research should be based on *“the mechanisms we propose to account for the outcome”* (Williams, 2018, p.31).

Critical realism seeks explanations through mechanisms and acknowledges that there are not only un-observable mechanisms but also multiple possible explanations (Wynn and Williams, 2012). According to the authors, the implication of these beliefs is that any effort to understand the ‘real domain of reality’ needs to address not only identifying elements of structure and mechanisms but also the challenge of trying to understand their manifest effects. Moreover, tools are required to compare and evaluate among different possible explanations based on the power to explain phenomena under the study. The chosen explanation includes a series of mechanisms that interact to produce the closest possible representation of the real world (Wynn and Williams, 2012).

Therefore to discover the underlying mechanisms causing the interplay of this factors, the researcher should explain the process based on ‘generative causation’ (Jagosh, 2018). The generative causation pathway not only

highlights 'x' leads to 'y', and 'y' leads to 'a' and 'b' but also engages with different levels or stages of the involved mechanisms (Jagosh, 2018). The ability to engage in explanation and causal analysis (rather than engaging in the thick empirical description of a given context) makes critical realism useful for analysing social problems, as well as suggesting solutions for social change (Fletcher, 2016).

Critical realism therefore treats knowledge or meanings held by individuals, such as their: (a) concepts, (b) feelings, (c) behaviour, and (d) social structure as real. The relationships among meanings are not captured by a hierarchy but by interaction and interdependence; two characteristics that mutually influence one another (Maxwell, 2012). Meaning is therefore constructed through a dynamic process of individual standpoints and social interactions, which then become a joint agreement that leads to certain consequences. Individual variations in behaviour and the terminology used, if beneficial to these individuals, would likely be noticed, copied, and spread, leading in this situation to more general accepted social tendencies (Maxwell, 2012). Things that are socially constructed may change over time based on the influence of a powerful group who inject their ideas into society. Meaning is also culturally and historically relative. This view sees how perspectives dynamically change and how certain ideas are acceptable in some cultures but rejected in others (Burr, 2015). Although the aspects of the social world are socially constructed, once constructed there are consequential realities which affect and limit the textual or discursive construction of the social process within particular groups (Fairclough, 2003).

3.3.3 Methodological Stance

According to (Crotty, 1998) 'methodology' refers to both a theoretical approach and an action plan. Using critical realism philosophical stance incorporating structure and agency, Archer (1995) developed a methodological strategy called 'analytical dualism'; a concept also referred to

as morphogenesis (Figure 5). The author put structure and agency in this model in a time dimension. This model is considered as a cycle, which builds on two propositions: (1) *“that structure necessarily pre-dates the action(s) which transform it”* and (2) *“that structural elaboration necessarily post-dates those actions”* (Archer, 1995, p.76). Further explanations about the cycle of morphogenesis are presented by accessing and selectively addressing discussions of realist scholars that use Archer’s work, as follows.

A structure is already existing at the beginning of morphogenesis, T1. A structure needs to be there first, since agency cannot change or maintain something that does not exist (Danermark et al., 2019). Structures and agencies are two different strata with dissimilar powers (Archer, 1995). At this point of time, T1, the structure emerged as the result of previous interactions among agencies. The next phase, interactions, T2 to T3, then happens (Figure 5). Structures are always the context in which interaction occurs; simultaneously interactions construct the context or contexts in which the structures are transformed (Danermark et al., 2002, Danermark et al., 2019).

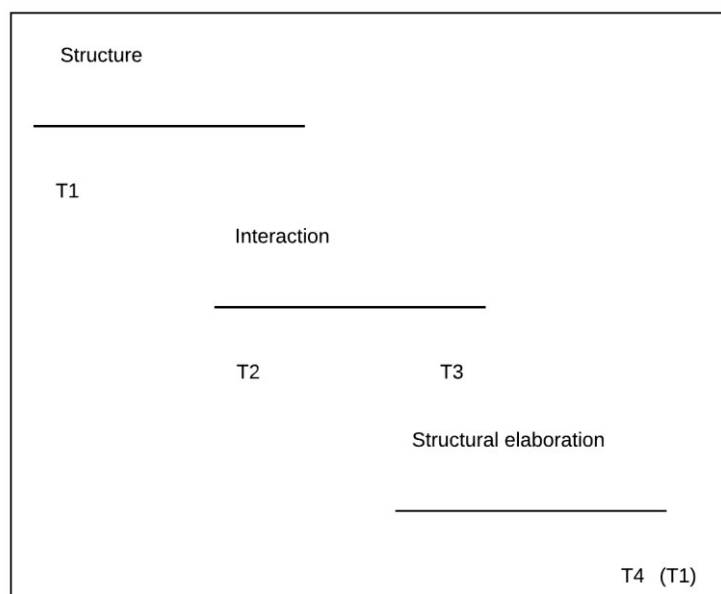


Figure 5. Morphogenesis in the interplay between structure and agency
Adapted from Archer (1995, p.76) and Danermark et al. (2019, p.82)

Moreover, the culture of human agency contributes to such interactions; a culture, like a structure, thus shapes and is shaped by human agency. Culture represents ideas that govern actions or non-actions of human agency and what the possible consequences are. It also reflects human agencies' logic of why particular actions are chosen in preference to others (Willmott, 2000). Besides culture, all relationships that exist between the related factors also contribute to such interactions. However, related parties may not always activate the relationships., i.e. rights and duties, as expected even though such relationships exist (Archer, 1995).

The consideration of 'emergence' introduces a time dimension in the analysis. Emergence is a process reflecting interactions between social structure and agency that occur over time (Danermark et al., 2019). This timing then brings some powers of a certain stratum to come before others, possibly from a previous emergence, resulting in the relative autonomy of the powers within these strata (Danermark et al., 2019). The last phase of morphogenesis, structural elaboration, T4, occurs as the result of interactions. This means that the structure is either transformed or modified (Archer, 1995). Simultaneously, structural elaboration triggers a new cycle, T1, for the next generation of agency, since the structure has new properties and circumstances, especially when it has been transformed (Danermark et al., 2019). However, it should be highlighted that 'structural elaboration' takes place only when human agencies decide to continue with such a process (Danermark et al., 2019). Therefore, Archer's morphogenetic approach provides a perspective on how social transformation occurs (de Souza, 2013).

I considered using grounded theory and ethnography as my methodology before I finally decided to use realist methodology. The reason why I discounted these two methodologies was that their philosophical stance was deemed not appropriate to answer my research questions. For instance, constructivist grounded theory (Charmaz, 2014) and ethnography (Atkinson

et al., 2001) embrace the notion of multiple realities (relativism) in the ontology. Meanwhile, critical realism acknowledges the ontological depth of realities. Moreover, the knowledge in constructivist grounded theory is co-constructed through human interactions (Charmaz, 2014), while in ethnography is through the interaction of human and culture (external factor) and ethnography seen them as a unit (Atkinson et al., 2001).

Critical realism matches and informs my beliefs about the nature of emergency nurses' role shaping. At the empirical level, I was able to observe how emergency nurses perform their roles. However, why they perform their roles as they do is influenced by different factors, such as regulations and policy. Moreover, individual nurses also give their unique meaning to their roles. Each of these factors has a dissimilar power to shape the role of emergency nurses. These beliefs helped me to understand the contributory factors of the role shaping across system levels and identify generative mechanisms associated with the process. Critical realism specifies individual or agency response as a mechanism and treats structure – agency separately; interrelated but with dissimilar causal power. Therefore, the realist methodology was deemed to answer my research questions appropriately.

3.3.3.1 Realist Principles

I used the methodological principle of critical realism (CR), which was elaborated by de Souza (2013). These principles are derived from both CR philosophical stances and Archer's morphogenesis concept (Table 2).

The context of action is defined as *"the context delineated for investigation by researchers"* (de Souza, 2013, p.144). She emphasised the importance of a comprehensive understanding of the context of action when explaining how a programme worked or did not work. Therefore, de Souza (2013) proposed four aspects that should be included in the context of action: (1) structure, (2)

culture, (3) agency, and (4) relations. Moreover, the author also highlighted that the horizontal explication of context, mechanisms, and outcome provides an explanation of how certain outcomes emerge within each aspect of the context of action. These principles served as the foundation of realist inquiry lines in my research and offered practical implication for me when exploring the four aspects cited above.

Table 2. Methodological principles

Explication of Contexts	Explication of Mechanisms	Explication of Outcomes
Structure	Mechanisms related to: • Roles or positions • Practices • Resources • Processes	Transformation of those aspects of structure related to roles or positions, practices, resources, processes
Culture	Mechanisms related to ideas or propositional formulations about: • Structure • Culture • Agency • Relations	Transformation of those aspects of culture related to ideas or propositional formulations about structure, culture, agency, relations
Agency	Mechanisms related to beliefs and reasons for action or non-action	Transformation of that aspect of agency related to beliefs and reasons
Relations	Mechanisms related to: • Duties or responsibilities • Rights • Power	Transformation of those aspects of relations related to duties or responsibilities, rights, power

According to de Souza (2013), structure has four components, namely: (1) roles or positions, (2) practices, (3) resources, and (4) processes. These components are the foundation of a structure, without which the existence of institutions and organisations is made impossible. She then continued to highlight the similarity and differences between culture and agency. Both culture and agency are linked to ideas, beliefs, and reasoning; however, culture represents collective agreements that may sit at an institutional or

organisational level, whilst agency provides more subjective or individual reasons for action and / or non-action. Furthermore, she proposed three properties of relations: (a) duties or responsibilities, (b) rights, and (b) power. She explained that duties or responsibilities relate to the expectations associated with a role. Meanwhile, rights relate to formal laws and regulations that protect an individual who takes a particular role in a particular system. Lastly, powers relate to positions held by an individual in a hierarchy, which describes how resources are distributed (de Souza, 2013).

The above methodological principles helped me to unpack the underlying mechanisms and contextual factors relating to emergency nurses' roles and their interactions in producing outcomes. Therefore de Souza (2013) recommends these principles as an explanatory tool with which to investigate social transformation. However, according to the author, there are many practical barriers that often make efforts to achieve a comprehensive understanding of all aspects and components involved in the context of action, both difficult and challenging to achieve. Therefore, realist researchers need to keep these methodological principles in mind.

3.3.3.2 Rationale for Choosing a Qualitative Realist Approach

The use of critical realism (CR) as the philosophical underpinning in nursing research has increased (Schiller, 2016). CR is used both in qualitative and mixed methods studies. However, there is no record of a study using a purely quantitative research orientation, since the focus of CR is to elaborate complex structure and relationships (Schiller, 2016).

According to Flick (2014), the purpose of a chosen research design should be to answer the specific research questions. The main interest of this study is to gain understanding about contextual factors that shape emergency nurses' roles, the mechanisms in operation, and the outcomes produced from the shaping process. Moreover, I also aimed to explore the comprehensive landscape around emergency nurses' roles for the

development of future programmes related to those roles. Therefore, I used a qualitative realist approach instead of realist mixed methods for my study.

In qualitative research, critical realism (CR) gives several benefits, particularly to better understand the relationship of agencies' beliefs or reasons and their actual circumstances (Maxwell, 2012). Moreover, Oladele et al. (2013) highlighted that the stratified ontology of CR provides a focus on context and influencing factors, which helps to articulate and address enabling and disabling factors and identify in what contexts a programme does or does not work.

In my study, critical realism helps to create an understanding of the construction of emergency nurses' roles; it involves processes at different levels including: (a) personal, (b) interpersonal, (c) institutional, and (d) organisational or even wider. Individual nurses, healthcare professionals such as physicians who work closely with emergency nurses, institutional, organisational, and the wider context all give meaning to, or in some way influence, emergency nurses' roles. But that influence does not imply any strict implication or linear sequence of hierarchy or control (Maxwell, 2012); for example, causal relationships may run in both directions (Sayer, 1992). The understanding of different layers of social reality that move up from individual actions into social tendencies as a collective reality is not linear or bounded with different contexts and mechanisms (Pawson and Tilley, 1997).

Adopting a qualitative realist approach allowed me to give more attention to the process than associations between factors, as well as to understand the structure and social tendencies as realities of the role of emergency nurses, without losing focus on agencies' perspectives.

3.3.3.3 Critique of Critical Realism

The use of critical realism (CR) in research has been subjected to critical observations, notably around its lack of methodological implication

(Lipscomb, 2008). His article highlighted that the abstraction level of CR requires a more explicit method to be used. This means that the researcher should explain in a practical manner how CR, as the philosophical stance, informed the chosen methods, such as the analytical framework and data collection. Over more than ten years, realist scholars have proposed methodological implications of CR using concrete examples from their research, which includes various areas of study such as nursing, information systems, education, and gender (Crinson, 2007, Wynn and Williams, 2012, de Souza, 2013, Fletcher, 2016).

Other critiques of CR have come from positivist and interpretivist perspectives. Positivists argue that the use of CR is vulnerable to bias because of the way CR values human freedom in reasoning; furthermore, its use in research is based on judgement (Hammersley, 2009). Walsh and Evans (2014) highlighted the response of critical realists to the positivists' statement that such values corroborate all research endeavours; therefore, the judgement needs to be carried out transparently to unpack generative mechanisms.

Interpretivists question whether or not stratified ontology can be distinguished with certainty since reality is subject to change and human knowledge can only capture a small portion of reality (DeForge and Shaw, 2012). Critical realists respond by saying the effects of each layer of reality are real and therefore a realist researcher is required to find them to be as comprehensive as possible, while recognising that they remain generative instead of definitive mechanisms. This way, changing at the empirical level can be sorted out effectively (Walsh and Evans, 2014).

3.4 Methods

This section provides an explanation of the research setting, gaining access to the research location, recruiting participants, and the data collection process.

3.4.1 Study Setting

This study was conducted in one major emergency department (ED) of the national referral hospital in Indonesia. The hospital, which is governed by the Ministry of the Health Republic of Indonesia (MHRI), admits patients with all types of underlying diseases such as trauma, cancer, and neurovascular disease with a total bed capacity of 1,052 (MHRI, 2017c). Therefore, as the entry point of the hospital, the ED treats those various types of patients and is the busiest ED in the metropolitan area. The average number of patients who visited the ED per day is 100 patients (MHRI, 2017b). Considering there are 42 other minor emergency departments (MHRI, 2017a) within the municipality (48.13 km²), the average number of visitation for this major ED is high. Also, the hospital, including its ED, functions as a centre of education, training, and research for healthcare professionals. These were my reasons for choosing this hospital as a research site.

3.4.2 Gaining Access

A request for ethical approval was submitted to the Research Ethics Committee at the University of Edinburgh. They formally approved the research on March 28th, 2018 ([Appendix 3: Ethical Approval University of Edinburgh](#)). The permission-gaining process of my study included two settings, which were at the hospital and professional organisation setting.

At the hospital setting, the process to gain access for conducting research was a long procedure. Firstly, I needed to obtain ethical approval from the Research Ethics Committee of the Faculty of Medicine, University of

Indonesia. Secondly, I needed to submit a research permission application to the hospital for further review by attaching all necessary documents, including the ethical approval granted by the Research Ethics Committee of the Faculty of Medicine, University of Indonesia.

Initially, I checked all necessary documents needed to obtain ethical approval from the Research Ethics Committee of the Faculty of Medicine, the University of Indonesia from their website. Then I prepared all the documents needed for ethical clearance application. All documents were translated into Bahasa. Ethical approval was obtained on February 5th, 2018 ([Appendix 4: Ethical Approval University of Indonesia](#)).

After receiving my ethical approval from the Research Ethics Committee, I submitted the application to gain research permission from the hospital. The hospital had its own format for 'participant informed consent' and the information sheet, so I was asked to transfer the information I had in my documents onto the hospital format. These documents are available in [Appendix 5: Information Sheet and Informed Consent](#). Then, the hospital management scheduled a presentation in front of the hospital's nursing board and ED managers. Eight people attended the presentation. During the presentation, they asked for some clarifications on potential participants, and we discussed possible strategies to recruit them. They also shared the current standpoint and future trajectory of the ED, as well as their expectations towards the research outcomes. Research permission from the hospital was granted on April 17th, 2018 ([Appendix 6: Hospital Research Approval](#)).

The process to gain permission for conducting research at two professional organisations began after I obtained ethical approval from the University of Edinburgh. I submitted all necessary documents, including ethical approval from the University of Edinburgh for the review process. Research permission from the first professional organisation was given on April 23rd,

2018, and the second one was approved on August 6th, 2018 ([Appendix 7: Professional Organisation Research Approval](#)).

Following the approval of my study at the hospital, I met with an ED nurse manager. She was my first gatekeeper at the ED. There was a total of three gatekeepers: (1) an ED nurse manager, (2) an ED supervisor, and (3) a member of the nursing board at the hospital, all of whom offered valuable assistance during my study. According to Bryman (2015), engagement and involvement with gatekeepers are necessary throughout the research process. The key roles of the gatekeepers include identifying and ensuring access to potential participants and providing possible solutions for technical issues (Bryman, 2015).

I talked through my study with the ED nurse manager to seek her endorsement. She welcomed the prospect of the study and then arranged a presentation about my research at the ED. She invited all ED members, including ED supervisors, emergency nurses, generalists, and specialists. However, not all ED staffs could attend the presentation because of the characteristics of the ED's working environment.

In my presentation, I explained: (a) the aims of my study, (b) the plan for data collection, and (c) the enrolment criteria for the participants. I also highlighted that separate individual informed consent would be obtained prior to any interview or observation. The presentation was followed by a discussion around my study. From that discussion I received the impression that the ED staff thought that my study was important and in particular that it could make a fundamental contribution to the future development of the ED through the role of its emergency nurses.

For the professional organisations that would be involved in my study, I needed to give a brief presentation about my research in front of selected representatives of the professional organisations prior to any interview. All

correspondence with the professional organisations was made through their secretaries. Detailed explanation of: (1) the recruitment process, (2) informed consent, (3) sampling strategy and sample size, and (4) inclusion and exclusion criteria will be discussed further in the following sections on data collection.

3.4.3 Data Collection

According to Wynn and Williams (2012) epistemological assumptions of critical realism suggest that there are unobservable mechanisms as well as the possibility of multiple mechanisms. Therefore, a realist researcher is required to use multi-methods or triangulation to unpack the underlying reality in their study from different viewpoints to address the limitation of human perception. The authors highlighted that critical realism assumes that different structures and agency carry different emergent properties, power, and tendencies. Thus, to understand these structures, different methods and perspectives need to be employed via triangulation. Data triangulation can be conducted by using different combinations of data sources, theories, investigators, or methods (Yin, 2013). Therefore, my study used three different methods of data collection: (1) observation, (2) interviews, and (3) documents. These different types of data sources were purposively selected to obtain a deeper understanding of contributing factors at the micro, middle, and macro levels that shape emergency nurses' roles in the major emergency department (Table 3).

Table 3. Data collection strategy

Level	Data Sources	Agency
Micro	Transcript of interviews Field notes of observations of nurse – physician interactions	Emergency nurses Generalists Specialists
Middle	Transcript of interviews Documents	Emergency department and hospital managers Regional policy makers
Macro	Transcript of interviews Documents	Professional organisations National policy makers

It should be highlighted that triangulation in critical realism aims not only to clarify the obtained data or strengthen research methods by compensating for each other's weaknesses (Mingers, 2004). It goes further to gain wider perspectives that unpack causal factors and enhance understanding of relationships among different structures, agencies, and their interactions (Wynn and Williams, 2012). According to Flick (2018), data triangulation should be able to promote the quality of the knowledge produced beyond only using one approach through the process of (a) comparing, (b) contrasting, and (c) linking the different sources of data to theoretical perspectives or research aims. This means that each data source in my study contributed to generating the realist logic of causation.

3.4.3.1 Non-Participant Observation

This section presents the data collection method of non-participant observation, including three areas of discussion: (1) ethical issues and considerations, (2) the observation process, and (3) writing field notes.

3.4.3.1.1 Ethical Issues and Considerations

According to Pigg (2013), the researcher should decide before entering the clinical field which type of observation is to be used: a participant or non-participant model? In my study, I carried out a non-participant observation model. The main considerations for conducting this type of observation were my research design and the characteristic of the emergency setting where I conducted my fieldwork. The purpose of doing observation in my study was to identify activities, processes, and interactions between nurses and physicians in the emergency department (ED) and explore how such interactions may influence how emergency nurses performed their roles. According to Fry et al. (2017), non-participant observation is suitable for such purposes. This type of observation in the emergency setting meant that I was defined as 'a researcher' and did not have any clinical care responsibilities. Thus the focus was on observing 'things that were happening', particularly in

a busy working environment like an ED in a major hospital (Fry et al., 2017). Therefore, to separate myself from the clinical staff during my fieldwork, I always wore different clothes to those worn by the ED staff as well as displaying a researcher identification badge whenever I was in the ED.

In order to capture all necessary data during my observation, I was informed by the four parameters set by Wodak and Meyer (2016): (1) regions, (2) periods of time, (3) human agencies, and (4) contexts of action. In my study, these parameters addressed regions in the ED, which included: (a) five zones: triage, resuscitation, red, yellow, and green zone; (b) two different periods of observation, a crowded and less crowded time; (c) emergency nurses and physicians as the human agency and different years of experience; and (d) exploring their roles, responsibilities, and their interactions as parts of the context of action. According to Fry (2012), unstructured observation is often used to explore these types of parameters in the ED. Unstructured observation means that researchers collect data without having any pre-defined behaviour that they may want to observe; thus, they do not follow a strict checklist or employ a particular research instrument (Mulhall, 2003). This type of observation will give the researcher a first-hand experience of learning to record behaviour and understand the various roles and perspectives being perceived (McDonald and Simpson, 2014).

Observation has the benefits of capturing data in 'natural' real-life environments and for the whole context where people function; in my case where they are working professionally (Mulhall, 2003). However, there are two main ethical issues and considerations when using observation as a method of data collection. Firstly, non-participant observation may lead to bias as people being observed may change their behaviour. However, Mulhall (2003) argued that in clinical setting most healthcare professionals will be too busy to maintain attitudes or display behaviour that are different from their daily normality after habituating to the initial stages of observation.

Secondly, there is the practical problem of obtaining informed consent to conduct observation in a large and busy environment like ED or to inform everyone (Mulhall, 2003); therefore, I took several steps in order to address this issue. Following the ED presentation, the ED manager introduced me to one of the ED supervisors, who became my gatekeeper. I met her to talk through my observation planning. I also explained to her that my credential clearance was as a researcher rather than as a healthcare professional (i.e. a nurse). Thus, I would not take part in delivering patient care in the ED. She then introduced me to the head nurse, the head of the teams, and other ED supervisors and scheduled an orientation day for me.

During the orientation time, she showed me the ED setting, storage locations of medical supplies and equipment, as well as the pharmacy, and radiology areas. She also briefed me about the patient flow in the ED, including: (a) the triage zone, (b) the minor illness patient zones (yellow and green), and (c) the more severe patient zone (resuscitation and red zone). I spent my first weeks in the ED in order to give essential explanations about my study during the morning meetings in an attempt to reach out to as many ED members as possible. The explanation included information regarding the expected research period, recruitment criteria, and individual consent to participate in the observation. I carried out my observations in each zone since it was impossible for me to cover all ED zones in one observation. I used the ED shift schedule to select observation days and identify the staff, both the nurses and physicians, who were assigned to the observed zone on that day. Before any observation, I talked through my study with them individually, informed them when the observation would take place, and gained their written consent to participate in my study.

I was also aware of the possibility of secondary participants, who were not the focus of my study but may enter the observation field, such as patients and their family. In this case, the researcher is usually only expected to obtain verbal consent from 'incidental' participant (Fry et al., 2017). I had

confirmed this protocol with the hospital ethics committee that secondary participants only required an explanation for my presence in the ED and verbal consent. Moreover, although my presence in the ED was as a researcher, and I did not have any patient care responsibility, I was aware that there were some circumstances when I might be called on to act. For instance, preventing a patient from falling out of bed, helping to positioning a patient, or similar activities to maintain patient and staff safety. I had a discussion around what situations and what types of activities I could or could not do as a response to such situations with my gatekeepers and supervisors.

Conducting observation in the ED may cause some participants to feel distressed. They may feel that their individual performance is being evaluated during observation, and this perception may well cause them to feel threatened or anxious. Therefore, to address this potential problem I explained the nature of the observation to likely participants; that my study totally focused on the daily work activities of nurses and physicians and their interactions as team members. Any information obtained during observation that may lead to the disclosure of participants' identity, would be anonymised, and all participants would be allocated pseudonyms. Moreover, I also informed them that they could withdraw at any time from the research participation without any disadvantage or consequences.

3.4.3.1.2 The Observation Process

Observations were carried out across three different zones: (1) triage, (2) the yellow and green zone, and (3) the resuscitation and red zone. The observation in the yellow and green zones were integrated since both zones have the same assigned nurses and physicians. This situation also applied in the resuscitation and red zone. I carried out three to four separate observations for each zone that covered busy time periods; weekday afternoons or weekends and less crowded time periods; weekday mornings (Table 4).

Table 4. Observation arrangement

Zone	Observation		Average Hours
	Frequency	Hours Range	
Triage	3	3.5 – 4	10.5 – 12
Green – Yellow	4	4 – 4.5	16 – 18
Resuscitation – Red	4	4.5 – 5	18 – 20
Average Total Hours			44.5 – 50

In each zone, the observation began by noting the general features, including workflow and nurses' and physicians' activities. Afterwards, more focused observations were employed to understand the interactions within the emergency team, between a nurse and physician or among nurses. These focused observations then led to selective observations towards certain activities, such as: (a) during team hand over, (b) giving new orders from the physician to nurse, (c) exchanging information, and (d) discussing a patient's treatment. Such interactions were then compared between the zones, crowded, less crowded times, and participant's years of working experience in the ED. A total of thirteen participants were included in my observations (Table 5). It should be noted that only four of the thirteen observed participants were also interviewed. The criteria for participants included in the interview is discussed further in section 3.4.3.2 Semi-Structured Interviews.

I conducted observations in between interviews. During the observations, I did not ask any exploratory or clarifying questions towards certain behaviours of the participant. Instead, I made notes on these behaviours and asked the participants about them during the interview if appropriate; for example, when / if any of the interviewed participants mentioned the behaviour during their interview. Some of the selective observations were informed by the interview findings. For instance, when any of the interviewed participants discussed and highlighted the 'hand over process' I then included these topic-related interactions in my observation process.

Table 5. The Characteristics of participants in Observation

Pseudonym (Participant ID)	Professional Background	Gender	Age Range*	Years of Experience in Emergency Department*
Amy (N1-O)	Nurse	Female	40 – 49	>15 years
Debby (N2-O)	Nurse	Female	40 – 49	10 – 15 years
Ingrid (N3-O)	Nurse	Female	20 – 29	< 5 years
Lala (N4-O)	Nurse	Female	20 – 29	< 5 years
Maria(N5-O)	Nurse	Female	20 – 29	< 5 years
May (N6-O)**	Nurse	Female	30 – 39	10 – 15 years
Ruth (N7-O)	Nurse	Female	20 – 29	< 5 years
Steve (N8-O)	Nurse	Male	30 – 39	10 – 15 years
Una (N9-O)	Nurse	Female	20 – 29	< 5 years
Yuki (N10-O)**	Nurse	Female	30 – 39	10 – 15 years
Hugh (I1-O)**	Specialist	Male	30 – 39	5 – 10 years
Rose (G1-O)**	Generalist	Female	30 – 39	5 – 10 years
Megan (G2-O)	Generalist	Female	20 – 29	< 5 years

*) Given in range due to anonymity preservation

**) Also interviewed

Some adjustments were made during the observation process; for example, I planned to shadow the assigned nurse and physician in each zone. However, I found this hard to capture interactions among them as there were 4 – 6 staff members in each zone except for the triage zone; only one triage nurse, and they had high mobilisation. Therefore, to increase my understanding towards their interactions, I observed selected activities in which I identified a high intensity of interactions among them. Examples of these activities include: (a) treating new patients, (b) changing patient's treatment plan, and (c) resuscitation or treating severely ill patients. I discussed any adjustments or technical issues that I faced during observation, as well as possible solutions, with my supervisors.

Managing the end of an observation should be thought out carefully by the researcher since there may be an ethical impact (Pole and Hillyard, 2016). They argue that there is no consensus regarding criteria to end the observation; some researchers may use time, financial, and / or political

restrictions, while others consider 'saturation' in observed data as a sign to stop. The decision to end my study was based on what Atkinson (2006) referred to as 'internal rhythm'. This rhythm means that I had a sense of a conclusion about the daily rhythm in the ED, a sense of data sufficiency. Before ending my observation, I also considered findings from my two other data collection methods: (a) interviews and (b) documents. I made sure that there were no issues from those findings that needed further exploration through observation.

3.4.3.1.3 Writing Field Notes

Observation in my study does not merely serve as a secondary data source for triangulation; instead, such observations offer valuable contributions to the process of generating realist logic of causation, along with the two other methods of data collection that have been discussed in the previous section. Therefore, I needed to produce comprehensive field notes that could help me to meet the observation session's purpose. Field notes were defined by Emerson et al. (2001) as:

"a form of representation, that is, a way of reducing just-observed events, persons and places to written accounts. And in reducing the welter and confusion of the social world to written words, fieldnotes (re)constitutes that world in preserved forms that can be reviewed, studied and thought about time and time again." (p. 353)

Field notes should be able to represent the context of the investigated phenomenon by capturing the dynamics evident in the natural world (Deggs and Hernandez, 2018). However, there is limited agreement amongst researchers regarding what, when, where, and how to record what happens in the field (Emerson et al., 2001). In this case, as Mulhall (2003) highlighted, the researcher's philosophical stance will influence the writing of their field notes. Therefore, I adopted considerations from critical realism when addressing the four research questions that inform the writing of field notes.

The focus of observations informed by critical realism involves not only the micro scale of social events but also concentrates on structures (Porter, 1993). Therefore, the observation of structures should also be included in the field notes. In my study, as has been discussed in section [3.3.3.1 Realist Principles](#), such structures included roles or positions, practices, resources, and processes.

Moreover, realists see the field of observation as a real entity that needs to be objectively recorded by the observer (Mulhall, 2003). As a result of this view, the field notes need to be written at the time that I was carrying out my observations in order to capture as much detail as possible; a goal that was not always possible to achieve. Writing notes in a busy environment like a major emergency department, especially when observed staff are experiencing stressful conditions, is considered insensitive or inappropriate. In such circumstances the researcher would be expected to stop their note-writing (Fry et al., 2017). I encountered these situations in every ED zones that I observed, particularly in the resuscitation zone. Consequently, in such situations the observations were recorded as summaries of events, practice, and interactions. During the observations, I jotted down keywords or phrases, whenever I could, then I wrote down more details of events or participants' actions as soon as possible after each observation was concluded.

Other critical realism (CR) principles that influenced the writing of field notes were relating to CR acknowledging the existence of mediated knowledge. The principle means that the reality about the world is mediated through social actors (Wynn and Williams, 2012), including the researcher as an observer of the phenomenon being investigated in the field. Therefore, I also made notes about my own ideas and thoughts regarding the result of each observation, as well as about my experiences that might affect the way in which I 'filtered' or perceived what I had observed. However, I separated my field notes of the observation from my personal reflection. According to

Barron (2013), such separation allows realist researchers to maintain the objectivity of field notes, while also keeping track of the mediation and representation processes. This proviso is important since there is an evitable tendency for researchers to record what they found interesting simple because it is familiar or unfamiliar.

Throughout the observation process, I incorporated reflective questions suggested by Deggs and Hernandez (2018) to enhance the value of my qualitative field notes. For instance, as discussed in previous sections, I noted how I entered and exited the field. I also highlighted any displayed power evident in the field.

Some portions of field notes writing, researcher's ideas, and thoughts were translated from Bahasa (the source language) to English, as required, so that my supervisors could give feedback on my observation process. The feedback proved to be a crucial element in my reflexivity.

3.4.3.2 Semi-Structured Interviews

This section presents information relating to the data collection method of a semi-structured interview, including three areas of discussion: (1) ethical issues and considerations, (2) the interview process, and (3) the transcription and translation processes.

3.4.3.2.1 Ethical Issues and Considerations

In my study the purpose of undertaking interviews was to gain insights into emergency nurses' roles. The sampling strategy in this realist research is rooted in its purposeful efforts to understand stratified reality and causal powers (Emmel, 2013). This concept of sampling applied across my three different methods of data collection, including the interviews. The strategy considered different human agencies and structure, as well as their interdependencies, in an effort to understand powers and liabilities; the

generative mechanisms which govern and facilitate these experiences (Emmel, 2013).

At the beginning of my study, I included five groups of interview participants as follows: (1) experienced nurses, (2) novice nurses, (3) experienced physicians, (4) novice physicians, and (5) key persons who formulated policy. This latter group involved personnel from the emergency department, hospital, and national level, i.e., hospital managers and professional organisations. Such participant selection was based on the different power and liabilities that each participant contributed towards the generative mechanism of the emergency nurses' role. However, as the process of data collection progressed, the selection of interview participants included considerations relating to the events and processes happening around them. Results from observations and document results also informed the interview participants' selection / recruitment process.

The recruitment process of potential interview participants in the hospital was facilitated by my gatekeepers. An emergency department (ED) nurse manager and a member of the nursing board assisted me to recruit participants who sit at the middle and top executive levels of the hospital structure. Meanwhile, the ED supervisor helped me to recruit participants at the practice level.

After identifying potential nurses and physicians as participants of my study, the ED supervisor made initial contact with them. Then, I looked at their shift schedule and approached them individually to further explain about my study and to obtain their consent to take part. They either agreed to participate at that time or a meeting would be scheduled at a more appropriate time and date. Research explanations included information about the study's purpose, data collection methods, risks, and the potential benefits of the study. For the purpose of communication, the cell phone numbers of the participants were obtained. In Indonesia, contacting a person through email is uncommon even

for work or professional reasons. The process of correspondence to recruit participants from a professional organisation level was conducted through the organisation's official secretary. Prior to any interview with representatives of professional organisations, I gave them an explanation of my study and before obtaining their consent to take part.

Roulston and Choi (2018) highlighted that the issue that usually emerges when using the interview as a method of data collection is a power imbalance between the interviewer and interviewee. I was aware that my professional background, particularly as a former member of the academic staff of a university, trainer of emergency nursing-related training, and member of a professional organisation would influence the interviewer – interviewee relationship. Therefore, when the participants, especially at the practice level, knew about my background they started to consult with me, asked for explanations and apparently considered me as 'an expert'. In response to this, I explained to them that my role in the emergency department (ED) was as a researcher, not a consultant. I also explained that I was interested in understanding their personal experiences of working as an emergency nurse or with emergency nurses in the major ED; stressing that in their ED world they were far more knowledgeable than I was. My first two weeks of orientation and attending morning meeting in the ED benefitted me greatly. Most of the ED staff was aware of my presence as a researcher and my attending those morning meeting helped to build mutual professional trust. I used mutually familiar terminology and avoided using jargon when interviewing participants; an essential strategy if one wishes to minimise the interviewee's perception of a potential power imbalance.

Interestingly, I had a different experience when interviewing participants at the manager and professional organisational level. I felt quite nervous about interviewing such participants because I considered them to be experts who held high levels of power and possessed the authority to make decisions for certain groups or society (Bogner et al., 2018). Interviewing these 'experts'

was challenging since they might be tempted to over-emphasise their own or their organisations' performance profiles or try to direct or 'take over' the content of the interview (Bogner et al., 2018). Therefore, to minimise these potentially problematic issues, I started my interview schedule at the practice level and with time and experience worked my way up to the manager and professional organisation level. This strategy was employed to allow me to gain an understanding of what was happening at the practice level and then to use that understanding to inform interview guidelines that would ensure the questions I asked were both relevant to participants as well as at the appropriate expert levels, based on their positions or roles and the organisations that they represented. I also read through their relevant documents, policies, and guidelines that related to emergency nurse field in order to familiarise myself with the context of these expert's work.

Other ethical concerns when using the interview as a method of data collection relating to an organisational study address the unintended consequence of causing potential harm to participants. The possibility of harm in this study is epitomised when participants feel distressed to talk about their views or experience related to their organisation or work; particularly as they may think that being 'totally honest' or 'telling the truth' could well jeopardise their job or position within the organisation. As a result of this, participants may not be willing to provide such 'honest' or 'truthful' information. Therefore, the role of gatekeepers in this situation is critically important. The way the gatekeepers linked with, and introduced me to, potential participants showed the level of support from organisations that may release the tension among participants. Moreover, I tried to provide a balanced explanation about the risks and benefits of the study prior to any interview, in order to help potential participants to better understand the research. Throughout the interview sessions, I carefully chose the strategy of asking questions in a neutral way, with emphasis on exploring and understanding; taking great care to avoid any hint of 'finding mistakes' or 'making judgements'. However, I also assured each interviewee that they

have the right to decline to answer any questions that made them feel uncomfortable; a decision that would not result any consequences for them.

I also explained thoroughly to them about how I would ensure confidentiality and anonymity of their interview data during its collection and analysis, as well as in any future reports. For example, I explained to the interviewees that nobody has access to raw data except me, as the researcher. Participants' identifiers such as name, age, years of experience will be anonymised by using pseudonyms in transcription, publication, and research findings or in a written document used for the purpose of consultation with my two supervisors.

3.4.3.2.2 Interview Process

I carried out interviews in Bahasa (the original language of participants), which lasted between 45 and 60 minutes for each participant. Each interview was digitally recorded and conducted at a designated room in the emergency department or in the interviewee's office.

I was aware that there is a different aim between constructivist and realist interviews. The constructivist interview aims to explore participants' perspectives and experiences, while realist interview aims to understand programme propositions of how, why, and under what circumstances a programme works or fails to work (Manzano, 2016). However, there is a lack of understanding about the current status of the investigated topic that is the focus of my study, the emergency nurses' role in a major ED in Indonesia. This situation meant that the programme under investigation was unknown to me when I started data collection. Thus, I could not set propositions and ask related questions directly in my initial interviews.

Therefore, to compensate for this difficulty I arranged the interview questions into two groups of question types: (a) exploratory and (b) propositional questions. I used a guideline for exploratory questions, normally between

three and five, to initiate the interview process. In my study, exploratory questions served as an introductory part to get participants talking about their views, challenges, and expectations towards emergency nurses' roles as well as support needed. Meanwhile, propositional questions aimed to investigate propositions about the how, where, when, and why of nurses' role shaping in the emergency department. Propositional questions were asked based on participants' responses towards exploratory questions (Appendix 8: An Example of the Interview Guideline).

I started the interview with such exploratory questions as "could you tell your experience as an emergency nurse?" Participants often answered this type of question by sharing their most memorable nursing experiences. Emergency nurses frequently pointed out barriers that they faced when conducting or trying to conduct their role; while others highlighted support that they had received from their organisation when performing their ED nursing roles. For instance, one participant shared her experience about how former nursing and medical coordinators mentored nurses in the ED. She really appreciated the coordinator's input aimed at helping her to improve her understanding of managing emergency patients and how she greatly regretted that such informal learning stopped when the coordinator was rotated to another department.

As the interview progressed, I asked propositional questions such as "how do you think that makes such factors important?" and / or "what consequences do you think happen from the process?"; questions based on participants' answers towards my exploratory questions. For example, when I asked these propositional questions to the nurse who raised the mentorship issue, she pointed out that the mentorship process offers on-going feedback for her and when the coordinator was rotated, she felt there was a discontinuity of the teaching-learning process in the ED, since the coordinator usually also performed bedside teaching while doing the round.

Although I had three to five exploratory questions at the beginning of my study, not all of these questions were addressed during the interview because the process depended on participants' responses. Moreover, as the interview process progressed, the exploratory questions especially for hospital managers and professional organisations were adjusted. The questions were informed by the previous interview, observation, and document data; thus, the direction and focus of questioning continuously evolved during data collection. During an interview or immediately afterwards, I made notes of keywords used in the participants' responses. Such keywords were also used to address propositional questions. This interview strategy brought me a better understanding of why things happen the way they do (or do not) around the emergency nurses' role.

A total of 18 interviews with 14 participants were included in this study (Table 6).

Table 6. The characteristics of participants for interview

Pseudonym (Participant ID)	Role/Position	Professional Background	Gender
Sarah (N14-I)*	Practitioner	Nurse	Female
May (N6-I)*	Practitioner	Nurse	Female
Yuki (N10-I)	Practitioner	Nurse	Female
Robert (N15-I)	Practitioner	Nurse	Male
Edina (N16-I)	Practitioner	Nurse	Female
Hugh (I1-I)	Practitioner	Specialist	Male
Rose (GP1-I)	Practitioner	Generalist	Female
Carla (M1-I)	Manager	Nurse	Female
Hector (M2-I)	Manager	Specialist	Male
Henry (M3-I)*	Manager	Nurse	Male
York (M4-I)	Manager	Specialist	Male
Flo (M5-I)	Manager	Nurse	Female
Frank (PO1-I)	Professional Organisation	Nurse	Male
Kaley (PO2-I)*	Professional Organisation	Nurse	Female

*) Interviewed twice

There were four participants who were interviewed twice because some findings from their own interview or other participants' interview, document or

observation needed further exploration of propositions provided by that particular participant. Verbal consent from each participant was obtained at each interview to make sure that they agreed to be re-interviewed within the period of data collection if needed.

The decision to end the data collection process using an interview was not based on how many participants I managed to include. Manzano (2016) emphasised the reasons that inform who a researcher chooses to interview, and what knowledge the interviewee brings to the study are more important than the quantity of interview participants.

The interview in realist research aims to conceive how the interviewee makes sense of their own experience regarding events or programmes. The unit of analysis within the realist data is not the participant, but an understanding of the events and what is happening around them (Manzano, 2016). She argues that such understanding can be explored in multiple ways, which in my study included observing the key processes and visiting related documents. Therefore, I ended my interview when my level of understanding towards participants' views, reasonings, and propositions around emergency nurses' role was, in my judgement, sufficient.

3.4.3.2.3 Transcription and Translation

I transcribed the interview data myself after each interview. The aim was to identify emerging topics that needed further exploration with the same participant during his / her next interviews or observation session; there were also instances when I needed to refer to document data when following up a point made in an interview. I did word-for-word transcription and included four simple components, which were: (1) participant's ID, (2) interview questions and answers, (3) pauses, and (4) emphasising tones of interviewees. According to Hepburn and Bolden (2017), novice researchers should avoid using so many symbols when transcribing since this will increase the risk of misapplying them.

Immediately after my first interview, I did the transcription, translated it from the source language (Bahasa) to English, and sent it to my supervisors. At this stage, the purpose of translation was to give feedback on my interview skill. My supervisors pointed out some interesting statements or keywords from interviewees that were worth further exploration. They also provided some technical strategies around asking questions. There were two interview transcripts translated into English during data collection.

The translation process was carried out in logical and grammatically correct English, which can be understood in academia when converting the text from Bahasa to English. However, I faced some difficulties in finding phrases in English that had the same meaning in Bahasa. Therefore, in order to capture and represent equivalence of meanings between two different languages I used fluid description when translating certain words or phrases, which may exist in Bahasa but may not exist in English. Furthermore, I discussed and clarified unclear meaning from these types of words or phrases with my supervisors during supervision meetings. Hepburn and Bolden (2017) argue that there is no right way to overcome such issues when working with two different languages. The authors consider regular discussion about unclear words or phrases between the two speakers as a good practice to address translation issues.

3.4.3.3 Document

The purpose of collecting data from documents in this study is to understand how such documents are used and how they may or may not influence emergency nurses' roles in daily practice.

3.4.3.3.1 Ethical Issues and Considerations

Some documents included in this study are publicly available online in electronic form and can be downloaded from the hospital's, professional organisations', and government's websites, while some others are internal to

the hospital and professional organisations. Permission to access internal documents was obtained through the hospital nursing board and the ED manager. Meanwhile, access to internal documents of professional organisations was gained from the presidents of the organisation. I discussed the confidentiality to use these internal documents with them. These documents can be accessed with the stipulation that they are not listed directly on the report and no direct quotes can be used due to confidentiality and ownership. The internal documents contain policies and regulations that apply to the hospital and professional organisations. These documents were used as sources of background information and to enhance my understanding of those organisations. There is nothing contradictory in these documents; they are in line with and complement the national policies.

3.4.3.3.2 Document Collection Process

Documents included in my study were: (a) those mentioned by participants during their interview and (b) those selected by the researcher. Selection criterion for the included document should be its degree of relevance to the research topic (Rapley and Rees, 2018). Therefore, in my study, the selected documents should in some way address the research questions and provide a better understanding about the phenomena emerging from the observation or interview data.

A total of sixteen documents were included in my study. All documents are written in Bahasa. Table 7 lists the nine that are publicly available. The decision to end document collection included considerations of the researcher's level of understanding of the investigated phenomenon.

Table 7. Included publicly available documents

Title	Author/Year
Nursing act number 38 year 2014	President of the Republic of Indonesia/2014
Continuous Professional Development Guideline	Indonesian National Nurses Association/2014
Nurses' Pay System Guideline	Indonesian National Nurses Association/2018
Regulation number 25 the year 2014 about nurses' functional position and credit point	Indonesian Ministry of state apparatus utilisation/2014
Regulation number 47 the year 2018 about emergency services	Indonesian Ministry of Health/2018
Regulation number 40 the year 2017 about the development of nurses' professional career ladder	Indonesian Ministry of Health/2017
Emergency Nursing Service Standard in the Hospital	Indonesian Ministry of Health/2011
National Standard of Hospital Accreditation	Hospital Accreditation Commission/2018
Regulation number 376 the year 2014 about hospital remuneration	Indonesian Ministry of Health/2014

3.5 Data Analysis

This section covers the data analysis of this study, including discussion about data management and the process of analysis.

3.5.1 Data Management

According to Guest et al. (2013), data management is an organisational process used by researchers that allows them to manage different types of data, maintain participants' confidentiality, and record the ongoing process of analysis, thoughts, and decisions made.

In my study, I used NVivo 11 to organise my data. I separated five different types of file in different folders on NVivo 11 and named them based on the source of data: (1) field notes of observation, (2) interview transcripts, (3)

documents, (4) interview memos, and (5) a reflective journal. This strategy allowed me to keep track of my analysis, recall any keywords or data efficiently, and compare different types of data. According to Fielding and Lee (1998) NVivo, which is a Computer Assisted Qualitative Data Analysis (CAQDAS) programme provides a wide range of features for indexing, retrieving, and organising note taking data during the analysis process.

Only the researcher that had the access to the raw primary data. The audio recordings of interviews in Bahasa were saved as a motion picture expert group audio layer 3 (.MPEG3) file and transferred immediately to a password-protected laptop after each interview was completed. It should be emphasised that pseudonyms to maintain participant anonymity were applied to all transcriptions, field notes, and research findings.

3.5.2 Analysis Process

The main purpose of conducting a realist analysis is to develop realist programme theories (RPTs). RPTs are propositions about how certain resources embed in specific contexts trigger human agencies' responses resulting in outcomes; a sequence also expressed as context-mechanism-outcome (CMO) (Pawson and Tilley, 1997). RPTs in realist research can be used for two main goals: (a) planning or (b) evaluation tool (Mukumbang et al., 2018). It should be highlighted that RPTs in my study, served as planning tools to inform future programme development of emergency nurses' roles. In this instance, RPTs give explanations of: (1) how different components of the programme are expected to work together, (2) their interactions with enabling and disabling factors, and (3) what outcomes were produced from such interactions (Funnell and Rogers, 2011). This planning tool is not only of benefit to my current study but will also contribute to the designing of future programmes, especially when there is only limited understanding of the current emergency nurses' roles in the emergency department. In order to do so, the context of action emphasised by de Souza (2013), which includes: (a)

structural, (b) cultural, (c) agential, and (d) relational conditions needs to be understood.

Data analysis in qualitative study starts even before the data collection process; for instance, during the formulation of research questions, and does not use a linear paradigm (Huberman, 2002). This study follows realist analysis steps which draw on the contribution of a range of realist researchers. The three most influential 'realist' being Archer (1995), Pawson and Tilley (1997), and (Danermark et al., 2002). The steps, which include: (1) category identification, (2) context-mechanism-outcome (CMO) configurations, (3) demi-regularities identification, and (4) abduction and retroduction, are not a linear process; instead, the steps are interdependent and addressed recursively.

During data analysis, two transcripts and the emerging coding and categories were translated from Bahasa into English so that my supervisors could give me feedback on the analysis process.

Step 1: Category Identification

Instead of directly conducting context-mechanism-outcome (CMO) configurations, I decided that I would conduct category identification. A detailed explanation around this decision is discussed in section [3.6 Reflexivity](#).

I used a conventional content analysis (CA) approach in this step, as described by Hsieh and Shannon (2005), in order to identify and analyse patterns of meaning across the whole data set. This step was used to understand the empirical domain of reality in critical realism by extracting manifest codes that remained close to the literal meaning of the data (Leung and Chung, 2019). The step is considered as a fundamental action to make sure that all meaningful categories are included in the next steps of the analysis. This type of CA is used when only limited research exists about the

phenomenon of interest (Hsieh and Shannon, 2005), such as in my study. It provides a much more comprehensive picture of the phenomenon by allowing new insights to emerge from the data (Hsieh and Shannon, 2005).

The category identification in this study started with reading across three different data types: (1) transcripts, (2) field notes, and (3) documents. Initially, for two interview transcripts, paragraphs that contain ideas were extracted to 'excel', and exact words or phrases that captures key meaning were manually highlighted from the text. However, as I worked on the three different data types, I found this strategy was not effective since I could not recall or compare between the data sets. Therefore, I uploaded all data, including transcripts, field notes of observations, and documents to NVivo 11 to develop categories (Figure 6) subsequently. Interview notes and reflective journals were also uploaded.

Name	Files	References
0. Misc	32	339
1. Transforming CNE of emergency nurses	19	115
Developing university-based specialist education	5	24
Valuing work-based learning	18	89
2. Strengthening nurse-physician relationship	22	99
Authority intersection	11	27
Decision making	5	8
Delegation tasks	7	16
ED nurses active flow management	9	37
Maintain patient flow	6	17
Nurse-led triage	5	17
Teamwork	9	31
Communication	5	11
Give input or initiate treatment	4	8
Integrated emergency clinical pathway	3	4
3. Emergency nurse engagement	20	71
Active contribution	7	11
Develop emergency nursing science	4	4
Input for emergency department services	5	7
Job satisfaction	12	38
Dissatisfaction of reward system	9	28
Dissatisfaction of role performance	4	10
Response	9	22
Knowledge and skill insufficiency	4	9
Lack of confidence	4	9

Figure 6. Category development using NVivo

I continued to highlight words or phrases that captured key meaning across data from transcripts, field notes, and interviews. Then from those words and phrases, I developed codes. As the process continued, coded words or phrases were compared to and contrasted with each other, then grouped and levelled up to subcategories and categories based on how different codes are related and linked. Categories developed from this step serve as the tools for configuration of context-mechanism-outcome (CMO). Any thoughts and questions that emerged during analysis were recorded in NVivo memos and linked to codes or subcategories whenever appropriate.

Step 2: Context-Mechanism-Outcome (CMO) Configurations

CMO configuration is also expressed as a realist programme theory (RPT) since RPT can take the form as a CMO statement or using 'if... then... or 'if... then... because...' statements (Westthorp, 2014). The realist formula of 'context + mechanism = outcome', also known as CMO configuration of Pawson and Tilley was used to understand the interplay, links, and connections among codes, subcategories, and categories. However, it is important to note that the product of such identification is not just a list of categories or a catalogue from context-mechanism-outcome; instead it is a configuration which contains causal explanations (Pawson and Tilley, 1997). Therefore, according to the two authors, such a configuration can be used further to unpack the actual and real domain of reality to understand the underlying mechanisms which underpin causal forces.

Realism has two main principles: (1) explaining causal processes (Bhaskar, 2008) and (2) embracing the idea that complexity is inherent in social systems (Westthorp, 2012). Causation, according to realists, can be manifested under mechanisms, which when activated under specific contextual conditions lead to outcomes (Bhaskar, 2008). These mechanisms are not always observable; therefore, the operation of CMO informed by theories helps researchers to consider the mechanism within the study (Pawson, 2013). One of the aims of realist research is to make explicit how

various contexts interact and influence the outcomes by activating or inhibiting key mechanisms (Pawson and Tilley, 1997).

Contexts

Contexts refer to “*elements in the backdrop of a programme that have an impact on outcomes*” (Jagosh, 2018, p.363). The context in realist analysis does not refer simply to the geographical or institutional location in which programmes are embedded; rather it can include set of policy, social rules, norms, and values which set limits on the efficacy of a programme’s mechanism (Pawson and Tilley, 1997). Therefore, the context in realist analysis is not rigid and may allow a room for improvement where necessary. Contexts can sustain the ideal conditions to bring the mechanism into action or prevent such an action (Pawson and Tilley, 1997) and have an impact on outcomes (Jagosh, 2018).

Mechanisms

Mechanisms can be defined as “*resources offered through a programme and the way people respond to those resources*” (Jagosh, 2018, p.363). A mechanism is the underpinning generative causal force that leads to outcomes; thus, the key point of realist analysis is to ‘unpack’ and identify all the potential mechanisms involved (Jagosh, 2018). In generating causal pathways, there are some characteristics of mechanism that can be used as an inquiry method. These characteristics include: (1) series mechanisms activated in context over time (the ripple effect) (Jagosh et al., 2015), (2) mechanisms which are activated slowly (the dimmer switch metaphor) (Dalkin et al., 2015), and (3) mechanisms that are activated first but then may go dormant until the context re-activates them (Jagosh, 2018). Therefore mechanisms can be hidden, latent, or dormant and are on a continuum of activation (Jagosh, 2018). In this instance, the focus was ‘drilling down’ on the process, which included identifying what triggered the mechanism and what links connect that context to the mechanism (Jagosh, 2018).

Differentiating context and mechanism in realist analysis often leads to confusion (Dalkin et al., 2015). Therefore, to help operationalise the difference between a mechanism and a context, the mechanism in this study will be disaggregated into a mechanism of resource and mechanism of reasoning; a procedure informed by the work of Dalkin et al. (2015). The authors distinguish a mechanism of resource as ‘the resources of which are offered by a programme’; whereas a ‘mechanism of reasoning’ refers to how individuals who are involved within the implementation of a programme respond to the resources.

Outcomes

Outcomes in realism include *“intended or unintended effects based on context-mechanism interaction”* (Jagosh, 2018, p.363). The researcher needs to understand mechanisms for change, which are activated by a programme and how they counteract the existing social processes (Jagosh, 2018). Moreover, the researcher must also acknowledge the social and cultural conditions necessary for change mechanisms to operate and how are they distributed within and between programme contexts (Pawson and Tilley, 1997).

After I finished developing the categories, I used a copy of the NVivo from the category development file to work on the CMO configuration. Firstly, I revisited codes and subcategories under each category. I was asking myself questions such as “what is the category really about?” and “is there any element of CMO within the category? And how?”. Then, I grouped subcategories under each category into context, mechanism, and outcome using NVivo. In the earlier process, four CMO configurations were developed: (1) continuous professional development (CPD), (2) emergency nursing care, (3) clinical performance remuneration, and (4) emergency nurse credentialing. Next, I used several features of NVivo such as ‘matrix’

and 'project map' to explore the connection among these four CMO configurations.

Connections showed interdependent relations of the four CMO configurations (Figure 7). For instance, the outcome from continuous professional development (CPD) becomes the context of 'emergency nursing care', 'clinical performance remuneration' and 'emergency nurse credentialing'. This connection means that the failure to obtain the expected outcome of CPD will interfere with the other mechanisms, which operate in 'emergency nursing care', 'clinical performance remuneration' and 'emergency nurse credentialing'. This situation occurs because the contexts may not have enough power to trigger these mechanisms to operate, thereby resulting in unintended outcomes. Such connections highlight the complexity of underlying mechanisms around emergency nurses' roles.

The CMO configurations were carried out simultaneously with the process of demi-regularities identification, abduction, and retroduction. A clear definition for these terms can be found in the [List of Definitions in the Realist Approach](#).

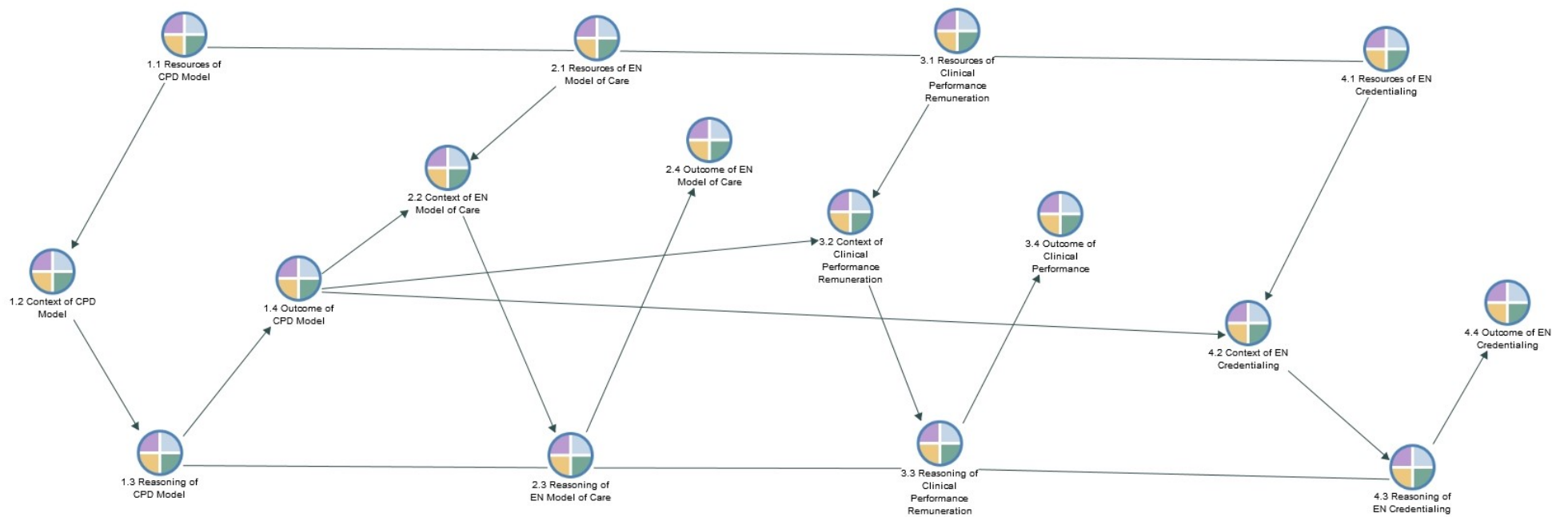


Figure 7. Project map of connection among four CMO configuration

Step 3: Demi-Regularities Identification

My view about the regularities of events is based on a partly closed/partly open system. According to Fleetwood (2016), the critical realism (CR) conception of an open and closed system is about regularities within event flow and not system thinking. Bhaskar (1979, p.45) defined open systems as “*systems where invariant empirical regularities do not obtain*”. Meanwhile, in a closed system, event regularities do exist. Therefore, the social world is seen as an open system since such a world cannot be isolated or controlled as can be done in a laboratory experiment (Bhaskar, 1998). As a consequence, there is no regularity in an open system (Danermark et al., 2002). Later CR scholars proposed the value of the partly closed / partly open system conception to trace regularities existing within the social world (Karlsson, 2015, Fleetwood, 2016, Danermark et al., 2019).

The argument is built based on Karlsson’s (2015) work entitled “People can not only open closed systems, they can also close open systems”. Human agencies have the power of reflexivity and creativity to partly close or open systems to a degree (Danermark et al., 2019). It is suggested that people’s power which, under certain circumstances, make it possible to partially open closed systems and close open systems, is a reflection of cooperation, contradiction, and effort among various social groups in everyday life. A closed system is the result of both the internal and external conditions being satisfied, and an open system is the result of none of the conditions being satisfied (Karlsson, 2015). Thus, people power contributes to the partially closed or open system by counteracting or establishing the internal or external closure, resulting in the existence of some regularities (Danermark et al., 2019). This explanation is in line with Archer’s morphogenesis model of how people can partially open and close systems. Moreover, Danermark et al. (2019) highlight that it would be impossible for a social life if all social systems were always open. Thus, such a world requires people that can partly open and close systems.

Examples from cases of how people's power partly opens closed systems and closes open systems are discussed by Danermark et al. (2019) by drawing together works of CR scholars such as Elder-Vass, Sayer, Graham Sewell and Barry Wilkinson. They argued that organisations, for instance, are run consciously under a closed system through regulation, reward, and punishment or rigorous surveillance enabling regularities among employees' behaviour. However, although powerful groups such as top executives are trying to close a system, employees, with their reflexivity and creativity mostly succeed in finding a way to keep the system partly open. Moreover, through collective agreement, in this case, managers lead to the closure of some parts of a system (Danermark et al., 2019). These examples also explain that what truly create change is not an intervention but people, i.e., through their reflexivity and creativity (Pawson and Tilley, 1997).

Therefore, regularities in critical realism refer to demi-regularities since such demi-regularities seek for a tendency in a semi-predictable manner because contextual variation can contribute to differences in behaviour patterns of human agency (Lawson, 1997).

Emergency department nurses are bounded by regulations, which exist at various system levels when performing their roles. The regulations may differ in different settings. This circumstance is an example of a closed system. Such closed systems govern emergency nurses' interaction, roles, and responsibilities, and variations in the patterns of their behaviour, which can be contextually different. Moreover, how each nurse is involved within the system to open closed and close opened systems (or not) is also different.

In this instance, demi-regularities serve as a tool to recognise underlying generative social mechanisms through the identification of such mechanisms and their influence between two similar circumstances, or between two similar agencies under the same circumstances (Crimson, 2007). Therefore,

in this study, finding demi-regularities was a means to focus on identifying mechanisms with a tendency to produce such demi-regularities.

Jagosh (2019) explained that demi-regularities search for patterns and fluctuation of patterns; known as outliers in positivism. He highlighted that where demi-regularities are observed in the data, this means that there is evidence of relatively enduring and identifiable tendencies at play even with the existence of pattern fluctuations. However, once the mechanism can be understood, such patterns and fluctuation of patterns can be explained either as common occurrences or as issues associated with or caused by outliers. The tone of demi-regularities is typically: 'this works in X and Y but not always because A and B may happen and create different outcomes' (Jagosh, 2019). Therefore, he argued that identification of demi-regularities is the basic tool to support the decision in establishing policy, since such identification facilitates innovative thinking around general patterns and outliers to improve outcomes.

There is no one tool or one way to conduct the identification of demi-regularities. Fletcher (2016) identified demi-regularities during a data coding process by using NVivo tree charts. She used dominant codes as a starting point to explore demi-regularities in her data. Meanwhile, Gilmore et al. (2019) used papers to colour code CMO configurations of each case in their study. They searched for patterns and fluctuations of patterns across CMO and compared the results. In my study, I used NVivo 11 to identify demi-regularities across data codes and CMO configurations. For instance, I utilised a project map feature of NVivo to portray the tendency of my data under the category of transforming continuing nursing education (CNE) of emergency nurses. The result showed the tendency among physicians, managers, and professional organisations that both work- and university-based learning are essential for the CNE of emergency nurses. However, all nurses in this study tended to focus only on work-based learning. These demi-regularities became my starting point to search for mechanisms that

can explain the phenomena. The process is then supported by abduction and retroduction. A clear definition for these two terms can be found in the [List of Definitions in the Realist Approach](#).

More detailed examples about demi-regularities are presented in the results chapters as an integral part of realist programme theory development.

Step 4: Abduction and Retroduction

In realist research, abduction and retroduction forms of reasoning are closely related, but it is important to distinguish the two to have a clearer understanding in the context of realist thinking (Danermark et al., 2002). Abduction is a process used to interpret empirical data using different theoretical frameworks. Fletcher (2016) emphasised that the aim of abduction in realist research is ‘to re-describe empirical data using theoretical concepts’. Meanwhile, retroduction focuses on ‘understanding causal mechanisms’ (Danermark et al., 2002). Wynn and Williams (2012) defined retroduction as:

“a form of inference that seeks to meet the CR goal of explaining by identifying and verifying the existence of a set of mechanisms which are theorised to have generated the phenomena under study” (p.799).

Retroduction is *“the central mode of inference in CR since it is a reasoning process that moves from concrete to abstract and back again”* (Lawson, 1997, p.156). Moreover, the Realist and Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES) project explained that retroduction becomes the central form of reasoning in realist research because this type of reasoning aims to identify hidden causal forces behind observable patterns that emerge at the empirical domain of reality (RAMESES, 2017).

In a recent article about retroductive theorising, Jagosh emphasised the difference between retroduction and abduction by using Tavory and Timmermans (2014) definition of abduction which focuses on creativity when extracting inference in theorising. He stated that:

“retroduction is inference to theorize and test hidden mechanisms, abduction is the inventive thinking required to imagine the existence of such mechanisms” (Jagosh, 2020, p.2).

In conclusion, abduction provides innovative thinking around relevant theories, then retroduction unpacks and specifies the causal mechanisms (Jagosh, 2020). Successively, during retroduction, abductive thinking can develop (Danermark et al., 2019).

In realist research, there are two main theories: (1) realist programme theory (RPT) and (2) middle-range theory (MRT) that need to be configured and tested, through retroduction. RPT is a central component in realist research as it contains statements about how resources from a programme, when embedded in a certain context, trigger people's responses, thus producing outcomes (Pawson, 2006). Meanwhile, MRT is a theory at a higher level of abstraction but still close enough to observed data that it allows empirical testing (Merton, 1967). Based on these explanations, RPT is perceived as always relating to causal explanations or an explanatory theory (Brown et al., 2018); in other words 'how resources interact in contexts to trigger reactions leading to outcomes'. Meanwhile, MRT may not always include causal claims or be explanatory, but is often oriented towards conceptualisation and abstraction (Marchal et al., 2018). MRT is necessary to open up thinking around programme theories since they often bridge different mechanisms which exist in various realist programme theories (RPTs) (Marchal et al., 2018). The authors highlighted that both MRTs and RPTs operate at different levels of abstraction and have the potential to move beyond the local situation through the process of theory testing across different cases, thereby resulting in more abstract and further refined theories.

It should be emphasised that the retroduction principle is derived from emergence ontology and is focused on the mechanism epistemology of critical realism philosophy (Wynn and Williams, 2012). Therefore, the goal of retroduction is to identify and verify mechanisms that generate events through theorising: i.e., generative mechanisms. However, the authors argue that if there is no existing mechanism that can be identified within the observed data, but which could potentially alter the outcome, then a new mechanism should be proposed. In return, according to Shearn et al. (2017), the newly proposed mechanism can trigger innovative thinking to incorporate theories that can explain phenomena at different levels of social structure.

There are no agreed steps among realist scholars regarding how to identify retroduction mechanisms, since the process inherently requires creative thinking. However, in my study, I adopted two main steps of the retroduction process as conducted by Crinson (2007) and Bygstad (2010), which require the researcher to: (1) identify mechanisms from collected data and (2) confirm proposed mechanisms by referring back to the data.

I used NVivo features such as 'project map' and 'matrix' as well as Lucidchart (software which creates diagrams, designs, or any visual materials), in order to trigger my innovative and creative thinking to iteratively configure the CMO. Questions such as "what is this CMO really about?", "what demi-regularities exist in each CMO?", and "what connects (or disconnects) the interactions within each CMO and from one CMO to another?" were asked during CMO configurations.

Next, I tried to make sense of what was really happening in each emergent CMO by using existing concepts. For instance, in the earlier phase of configuration, I considered how concepts informing the roles of preceptors and mentors could fit my first CMO. However, over time, I found demi-regularities and missing mechanisms within this particular CMO that cannot

be explained by preceptorship and mentorship concepts. Then I searched for other alternative concepts by constantly moving from concepts to data and back again. I asked the key question: “*what properties must exist for [the phenomenon of interest] to exist and to be what [it] is?*” (Danermark et al., 2002, p.97). The concepts around knowledge brokering causally re-described the generative mechanisms of my first CMO. The same process was used for my second CMO.

Then, I listed all potential MRT by drawing on works of theorists that related to concepts that were retroductively developed from my first and second CMOs. The selection process of short-listed middle range theories was then appraised based on four criteria suggested by Shearn et al. (2017); the MRTs should: (1) improve the conceptualisation or articulation of RPT, (2) fit with the research aims, (3) simple in inspiring theory generation, and (4) be compatible with realist views of causations. Moreover, Westhorp (2012) recommends that the MRT should be able to communicate some of the following: (a) elements of the system, (b) interactions across system levels, and (c) the outcome that may emerge in one level of the system as a result of the interactions at other levels.

At first, professional identity theory appeared to be the MRT that was able to explain different concepts which emerged from the two CMO configurations. Professional identity theory then abstracted down to empirical data. As the analysis process continued, I found that there were some phenomena within the empirical data that could not be addressed properly by the MRT. At the later phase of the analysis, the MRT of my study shifted from ‘professional identity theory’ to ‘transition theory’. The transition theory then went through the same ‘abstracting-down’ phase to make sure that the theory adequately met the criteria of MRT suggested above by Westhorp (2012) and Shearn et al. (2017). More detailed explanations on how I conducted retroduction are presented in the results chapters as the analytical process of RPT and MRT development.

3.6 Reflexivity

Reflexivity is a part of important processes that establishes 'trustworthiness' in qualitative research (Lietz et al., 2016). Incorporating reflexivity in the research means that researchers need to examine their roles, subjectivities, positions, beliefs, and experiences that they bring into their study and recognise how these may influence the knowledge mediation process (Berger, 2013, Lietz et al., 2016). Therefore, researchers should practice reflexivity and engage with the process throughout their study (Sultana, 2007). I have discussed my reflexivity regarding data collection in previous sections above.

The following sections further address how I engaged with reflexivity at a different stage of my study. I began to explicitly convey my positions and then examine how these positions, directly and indirectly, influence the decisions I made throughout my study.

3.6.1 My Positionality

Reinharz (1997) acknowledges that there are three selves of researchers that influence how they conduct their research: (a) the self that thinks about how to conduct the research, (b) the researcher's personal or professional background, and (c) situation that researchers create on purpose in their study.

I was a novice researcher at the beginning of my PhD study with only limited experience of such an activity. I gained some experience in conducting interviews, observations, and coding as a member of the research team in a project when I was working in a university in Indonesia. At the beginning of my first PhD year, I undertook a literature and systematic review course. Moreover, I had read literature around the emergency nurses' role prior to designing my study. After my first-year review and into my second year, I

took several workshops specific to the 'realist' methodology that I used. I also took practical courses dealing with using NVivo to analyse data.

'Emergency care' has always been my passion since I was in my undergraduate programme. Thus, after I earned my nursing registration, I dedicated all my work and commitment to this area. I have clinical experiences in a hospital's the emergency department (ED) and intensive care unit (ICU). My work as a clinical instructor was also carried out in these areas. Prior to pursuing my PhD, I taught emergency nursing-related modules in an Indonesian university. Over time, my interest in education, especially towards clinical or practice-based learning, grew. Such influence comes from both of my parents, who are also teachers; we usually share and exchange thoughts about education. I am also familiar with policy and regulation about emergency nurses because I am one of the board members of a professional organisation for emergency nurses in Indonesia.

I conducted my research in the ED where I was not part of their workforce; such circumstances situated my position as an outsider. However, I have experience as an emergency nurse. Therefore, I was an insider with regard to having an emergency nursing background. Moreover, conducting interviews with representatives from two professional organisations, managers, and executives around policy and regulation related to emergency nurses also situated my position as an insider. In the first professional organisation, I was an insider because I am a board member of the organisation. As for the second professional organisation, I was an insider in terms of I have experience in formulating regulations.

3.6.2 Reflection on My Research Journey

At the beginning of my study, I was aware that my professional background influenced my decision to choose the topic of my study. Such practice is common, particularly in qualitative research where researchers tend to

explore a topic based on their own experiences (Cuthill, 2015). However, I did not realise just how much this background had influenced my assumptions towards my study. Such influence was noted, since both my supervisors raised this issue during our first weeks of supervision meeting in the first year of my PhD programme. We discussed how these assumptions may lead to biases throughout my research journey. According to Charmaz (2014), researchers need to engage with reflexivity through writing memos about all decisions chosen during the research journey; therefore, I wrote memos throughout my research to examine my decisions and thoughts and how they might affect my study.

When I was exploring the literature in my study topic, I found that emergency nurses' roles had significantly evolved, particularly in high-income countries such as the United Kingdom, the United States, and Australia. Various advanced roles of emergency nurses have been successfully developed in all three locations. Moreover, many studies have been carried out to evaluate the emergency nurses' role, and the results have shown positive outcomes on key performance indicators (KPIs) operating in emergency departments; for instance: (a) patients' shorter waiting times and (b) increased patient satisfaction. Unfortunately, there is limited understanding of how these advanced nursing roles work satisfactorily, for whom, and under what circumstances. In Indonesia, I found very little information around the development of emergency nurses' roles because of a lack relevant published literature.

Reflecting on my own experience and thoughts after reading a wide range of literature, I was curious to understand the contributory factors that shaped emergency nurses' roles in Indonesia, including individual, organisational, and social contexts. My experience working in contexts that were closely prescribed by policies and regulations also made me want to be able to articulate clearly how such factors interacted each other in producing outcomes and to provide explanations about the possible underlying

mechanisms to inform future development of the emergency nurses' role. I embraced the notion of stratified realities, and that knowledge is mediated through human experience. Therefore, my quest in searching explanations should also acknowledge that several mechanisms may be un-observable. Thus, multiple possible explanations relating to the emergency nurses' role may exist. I believe transformation occurs in a spiral movement between structure and human agency interactions; interaction happens within the existing structure simultaneously; such interactions transform the structure. Therefore, I adopted critical realism as the philosophical stance of my study.

Finlay (2003) emphasises that reflexivity should also include reflection around the relationship between the researcher and their participants, including its dynamic and the negotiation process. In line with this practice, I explored my relationship with the research participants and found out that power imbalance was evident during data collection, especially with my interview participants. I experienced different dynamics between participants from the practice level, in comparison to those who came from professional organisations or the managerial level. Explanations about these challenges, together with the negotiation process involved are already presented above in section [3.4.3 Data collection](#).

Moreover, interviewing the representative of a professional organisation, where I am also one of the board members of that organisation was challenging situation for me, in my role as a researcher. During the interview, my respondent kept asking for my opinions. I was aware that my answers might potentially direct how her responded to my questions. In order to prevent this, I repeatedly explained to her about my current position as a researcher; I was only interested to explore her experiences and understand her perspectives.

At the earlier phase of my data analysis process, I struggled to step back from my own assumptions as described below in my memo.

“I feel like, during data analysis, I already have my own boxes. I am carrying around these boxes, which are already grouped based on my assumptions. During the analysis process, I just simply select the data that fits with these boxes. As a consequence, the way I develop context-mechanism-outcome (CMO) inquiry is also based on these assumptions. This situation makes me lose most of my data as I tend to eliminate the data that do not match these boxes too soon; the eliminated data may worth further exploring though. Is there any practical process that I can use to make sure that I include all key meanings from my data?” (Memo – March 2019).

Following my reflection, I checked my analysis process against the literature and found that according to Hsieh and Shannon (2005) conventional content analysis (CA) is a necessary step to make sure that all meaningful data are included when there is only limited published research about the phenomenon of interest, such as in my study. Therefore, I decided to conduct CA first to develop categories and then from these categories I could use the CMO configuration. I also discovered that CA is actually in line with the critical realism, since it is used to understand the empirical domain of reality (Leung and Chung, 2019). From this example, the purpose of writing memos was extended beyond documenting ideas, thoughts or raising awareness to become a tool to trigger my analytical thinking. It is for this reason that engaging in reflexivity is perceived as enhancing trustworthiness in qualitative research (Charmaz, 2014, Lietz et al., 2016).

After found the content analysis step through reflexivity, I was more satisfied with the analysis process, as well as surprised with the findings that emerged from my data. For instance, my previous assumptions about as individual factors that become ‘disabling factors’ informing emergency nurses’ role in the ED, were challenged by my data which showed the opposite; such factors become the strength that supports their role.

3.7 Methodological Rigour

This section presents strategies that I used to ensure the trustworthiness of my study. The section is followed by a discussion regarding translation issues.

3.7.1 Trustworthiness

The rigour of qualitative research, unlike quantitative research, is measured by trustworthiness criteria, which include: (a) credibility, (b) transferability, (c) dependability, and (d) confirmability (Lincoln and Guba, 1985). I used six strategies to establish and maintain trustworthiness in my study: (1) adopting well established research methods, (2) establishing trust and familiarity, (3) conducting triangulation, (4) conducting peer debriefing, (5) providing a 'thick' description, and (6) practicing reflexivity.

Adopting well-established research methods was one of the main strategies to ensure the credibility of a qualitative study (Shenton, 2004). According to Maher et al. (2018), credibility aims to make sure that the design of the study represents participants' reality and investigates what is intended. The purpose of my study is to understand the contributory factors that shape emergency nurses' roles in a major ED in Indonesia; a focus that includes individual, organisational, and social factors. Moreover, the study also intends to explicate how these factors interact with each other in producing outcomes and identify possible underlying mechanisms. Therefore, this study was designed using the realist approach.

The data collection and analysis methods were chosen because they facilitate the exploration of contributory factors towards emergency nurses' roles and describe how such factors interplay with mechanisms in producing outcome patterns. The methods also allowed me to uncover experiences, responses, and perspectives from different related parties.

Moreover, realist-informed review of the CMO relating to emergency nurses' role transition in the existing literature provided more insights for my study. Such a review gave an understanding of the continuum process present in a transition; the mechanisms involved, immediate, intermediate, and long-term outcomes of the process, and how these factors may influence receptivity level of the context in which the transition occurs. Thus, the information allows me to assess the current standing of emergency nurses' role transition process in the ED under my study, and then uses such understanding to inform possible future developments.

Establishing trust and familiarity was another method that can be utilised to ensure credibility (Shenton, 2004). Therefore, when in my study location in Indonesia I attended hospital-based morning meeting on daily basis prior to any data collection. I also asked to have the same room that the ED staff used to allow me to interact with them during a break or outside working hours. I 'shadowed' my gatekeeper on more than one occasion when she had a meeting with other ED members, and she introduced me to them. This strategy allowed me to identify myself as a researcher in the ED. Thus, the ED staff became familiar with my presence.

In practice, strategies, which are used to ensure trustworthiness in qualitative research overlap (Lincoln and Guba, 1985). Such overlapping also occurred within the strategies that I used to maintain the rigour of my study, as illustrated in Table 8.

According to Creswell (2007), triangulation can be used to ensure both the credibility and conformability of qualitative research. Conformability is the aspect of rigour which ensures that interpretations and conclusions are grounded within the data (Korstjens and Moser, 2018).

Table 8. Overlapping strategy of trustworthiness in the current study

Strategy	Aspect of rigour			
	Credibility	Transfer-ability	Depend-ability	Confirm-ability
Adopted well established research methods	+			
Established trust and familiarity	+			
Triangulation	+			+
Peer debriefing	+			+
Thick description	+	+	+	
Reflexivity	+		+	+

Yin (2013) recommends that data triangulation involves using at least two related data collection methods, data sources or investigators. Therefore, to ensure credibility and conformability, my study used three different methods of data collection: (1) observation, (2) interview, and (3) document analysis. Moreover, data sources were gathered from diverse participant sources, which includes: (a) emergency nurses, (b) physicians, (c) managers and (d) representatives of professional organisations.

Another strategy that I adopted to establish credibility and confirmability was 'peer debriefing'. My PhD thesis supervisors were my 'peer debriefers'. I constantly discussed issues with my supervisors throughout my research process; particularly those relating to: (a) designing the study, (b) data collection, (c) data analysis, and (d) data interpretation. Hadi and Jose Closs (2016) suggest that a peer debriefer is expected to be someone who has skills in asking insightful questions regarding the researcher's interpretation, who can trigger critical thinking, as well as providing alternative views. Thus, a peer debriefing can enhance the credibility and confirmability of the research.

Researchers such as Shenton (2004) and Hadi and Jose Closs (2016) suggest that providing thick description can be done to maintain credibility, transferability, and dependability of qualitative research. Transferability according to Speziale and Carpenter (1995) is concerned with how a study's

findings may be relevant to other similar situations. Meanwhile, dependability refers to the consistency of a study when it is replicated within the same context (Shenton, 2004). I provided a thick description of my study in my writing, including study design, data collection and analysis process. The characteristic of the realist approach, which uses context-mechanism-outcome (CMO) as the heuristic tool, allows me to articulate clearly on my findings, discussion, conclusions, and recommendations of possible CMO involvement. Thus, the reader can examine which parts of my results are transferable. Lastly, I engaged with reflexivity throughout my research process as has been discussed in section [3.6 Reflexivity](#). According to Shenton (2004) reflexivity can promote credibility, confirmability, and dependability of the research findings.

3.7.2 Translation Considerations

Transcripts of interviews and field notes of observations were all produced in Bahasa, the state language of Indonesia. I used Bahasa to communicate with all my participants, as well as all written documents included in my study.

Twinn (1997) and van Nes et al. (2010) suggest that researchers should analyse the data in the source language to optimise the quality of data analysis. Therefore, the data analysis of my study was carried out in Bahasa. The translation process from Bahasa into English was done during the process of writing up the quotations in the results' chapters. However, some portion of interview transcripts and observation field notes were translated from Bahasa into English at a different stage of data collection and data analysis; an imposed arrangement required for the purpose of supervision. Ensuring my supervisors could provide feedback was part of a strategy that could also ensure the trustworthiness of my study. The explanation around the translation process at this stage is already presented in [3.4.3 Data collection](#) section.

I was aware that the ideal translation process in research is a complex one as it includes: (a) back translation, supplied by professional bilingual translators throughout the process, (b) expert review, (c) testing, and (d) the revision of any inconsistencies (Peña, 2007). However, these processes require both a lot of time and financial resources, which were beyond my resources as a student researcher. Twinn (1997) emphasised that the accuracy of the translation process should be very carefully considered, as the language is attached to social context, which differs from one language to another. Peña (2007) also expressed the same concern about the translation process regarding cultural equivalence; where was the conversation originally produced and where was it headed? Based on these considerations, I did the translation for the participant's quotations myself. I am bilingual; familiar Bahasa and English. According to Esposito (2001), by being a bilingual researcher, the risk of misinterpreting participants' communications is likely to be minimised. Moreover, I am also familiar with the sociocultural and professional contexts of the research. The translated quotations then were checked by an Indonesian colleague, who is fluent in both Bahasa and English and who has experience in qualitative research. Furthermore, during supervision meeting, any unclear expression from the quotation was discussed with my supervisors.

Nevertheless, challenges in translation throughout the research process were evident. For instance, my participants used the word 'stagnant patient' to describe a patient who could not be transferred out from the ED to the designated ward because there is no room available in the ward. My supervisors pointed out that the word 'stagnant' has a negative meaning in English as it usually uses to express the water that has no flow and as a consequence, often have an unpleasant smell. Therefore, it is considered inappropriate to use the word 'stagnant' to describe patient status. My supervisors then asked clarifying questions and suggested the term 'waiting patient' since the patients were already assessed and treated in the ED and were currently waiting for an available bed in the designated ward.

As the analysis process continued, I realised that I needed to be aware of the terminology that I used in my writing because sometimes a similar word in Bahasa and English has a different definition and implementation in practice between Indonesian and the United Kingdom contexts. For example, my supervisors highlighted that the words preceptor and mentor have different roles and responsibilities among regions in the UK, such as between Scotland and England. These differences commonly happen in practice as the implementation is embedded within different context, policies, and regulations. Therefore, whenever necessary for these types of relatively ambiguous words, I also added the explanation about what those words meant in the Indonesian context.

3.8 Summary

This chapter has discussed in significant detail issues of: (a) philosophical stance, (b) research design, and (c) methods used in this PhD research. I have presented my argument regarding why I chose the qualitative realist approach as my research paradigm and how it fitted with my research aims and questions. I also have set out the methods that I used in this research, which are aligned with the philosophy of critical realism. Data collection methods, ethical issues, and considerations have also been described along with how I carried out realist data analysis. I discussed my 'positionality' and how reflexivity helped me through my research journey. Lastly, issues informing the methodological rigour of this study was presented.

The next three chapters focus on the research findings, along with the development of realist programme theories and the middle-range theory adopted for this study.

Chapter 4: Social and Organisational Context of Emergency Nurses' Role Transition

4.1 Introduction

The current study focuses on understanding the interactions of contributory factors that shape emergency nurses' roles in a level IV (major) Indonesian hospital's emergency department. During data analysis, it was apparent that the role of emergency nurses in the emergency department featured in the current study is transitioning.

This chapter focuses on presenting findings related to social and organisational contexts in which dynamic interactions related to emergency nurses' roles are embedded. These contexts are crucial to give a comprehensive understanding about the driving forces and prevailing conditions informing emergency nurses' roles. This chapter starts by explaining transition theory, the middle-range theory (MRT) emerged from the data. Then the remaining sections continue to discuss contextual findings and transition conditions using the MRT.

4.2 Middle-Range Theory: Transition Theory

The process of finding a middle-range theory (MRT) for this study followed analytical steps. I did the abduction process by re-describing synthesised data using theoretical concepts. The concepts of 'authority' and 'competency' were created from this process. Then I searched a higher-level concept that can link these two concepts. I configured that 'professional identity' was the concept that could explain what was happening in my data, including linked 'authority' and 'competency' concepts. The concept of professional identity

then went through a retroduction process of moving from conceptualisation back to empirical data to unearth underlying mechanisms behind observable patterns. As the data analysis progressed, more concepts such as knowledge brokering, and role-relationships were identified from within the data. These new emerging concepts, supported by a reflection process, have shifted the main concept from 'professional identity' to 'transition'.

Following this finding, I explored candidate theories around transition, including the 'transition theory' of Meleis and the 'change management theory' of Lewin in order to determine the middle-range theory (MRT) employed in my study. According to Kaidesoja (2018, p.1470), there are three functions of MRT in research, which are

“(i) a conceptual framework about social phenomena; (ii) a mechanism schema; and (iii) a cluster of mechanism-based explanations of social phenomena that are based on the mechanism schema”.

These functions are based on the mechanism approach to explanation (Kaidesoja, 2018). Based on the analytical process, transition theory of Meleis (2010) was elaborated as the middle-range theory (MRT) for the current study. As an MRT of my study, Meleis transition theory provides three functions: (1) it connects interrelated concepts, (2) it explains realist logic of causations, which mechanisms (potentially) operate (or not) under what circumstances and producing what outcomes, and (3) it advances strategies based on context-mechanism interactions. The transition theory then entered the retroduction process throughout data analysis and discussion.

The following sub-sections further explain the key concepts of Meleis' transition theory in relation to my study.

4.2.1 Role and Transition

According to Meleis (1975), there are three different views towards the 'role concept', including theories that view roles as derived from: (1) a specific culture, (2) human behaviours and expectations, and (3) structure – agency interactions. The concept of role in Meleis' transition theory adopted the third view, which is in line with Archer's morphogenesis concept that I used as my methodological stance. She argued that roles are not merely a set of actions and expectations, as defined by Parsons and Fox (1952). The role is not simply defining human behaviour as the notion of stimulus-response. Instead, the role refers to human behaviour as a result of a complex interaction of between social structure and the individual. Therefore, the concept considers structure (context) and agency interactions as factors that define roles. Thus, the concept can be used to understand individual actions as well as the structure where such interactions occur. As a result, the effects of social demand on an individual or groups can be seen (Meleis, 1975).

Transition has been defined as a *"passage from one life phase, condition, or status to another, is a multiple concepts embracing the element of the process, time span, and perception"* (Chick and Meleis, 1986, p.239). Meleis' earlier works in transitions were more focused on patients, and significant others undergoing role transitions and how nurses can support such transitions by using nursing interventions. Later, her works have expanded to wider contexts. Studies that used transitions theory have been carried out extensively. Other scholars have collaborated and contributed to the expansion of the transitions theory knowledge field; one example being a study about the role transition of acute care nurse practitioners (ACNPs) by Chang et al. (2006). Their study emphasised the complexities involved in the process of professional role transition. This type of transition is considered as organisational, since it reflects a wider context of transitions, including system and intra- and inter-organisational changes (Schumacher and Meleis, 1994). In their study, Chang et al. (2006) highlighted how a change in professional practice requires adjustment in: (a) education, (b) recognition,

and (c) reward system as well as (d) authority and (e) the care model of ACNPs. The study showed that the direction of ACNPs' professional growth is also influenced by the different expectations of related parties towards the role; entities including: (a) ACNPs, (b) patients, (c) healthcare colleagues, (d) the institution, and (e) wider organisations, all contributing to making the transition process even more complex.

The role of nurses has been evolving internationally as health care systems rapidly expand and social systems become more complex (Hardy and Conway, 1978), including nurses working in the emergency departments. According to Rheiner (1982), interaction between individuals and their surroundings shape three significant role factors: (1) role expectations, (2) role conception, and (3) role performance. However, according to Hardy and Conway (1978) in the health delivery sector, organised autonomy and power relationships should also be considered when exploring professional roles, since each role will be bounded by legal regulations, which are established at different levels of a specific system and are constructed by dominant groups within the system. This view means that transitions of a role at practice level require a change in abilities, expectations, and role-relationships (Meleis, 1975). Moreover, Meleis (2010) also suggests such changes should be followed by a necessary transformation at a wider level in which the transition takes place, such as changes in policy and regulations.

The major concepts of transitions theory as the middle-range theory, are: (1) types, patterns, and properties of transition, (2) transition conditions, (3) process indicators, (4) outcome indicators, and (5) nursing therapeutics (Meleis et al., 2000).

4.2.2 Types, Patterns, and Properties of The Transition

Transitions may be triggered by critical events within individuals and their surroundings. There are different types of critical events that may lead to a

transition, including developmental or lifespan, health-illness, situational, or organisational changes (Meleis et al., 2000). In situational transitions, such changes can be normative or non-normative. Organisational changes, for example, often structured and planned. Meanwhile, the sudden death of a family member is considered as a non-normative change. Although human responses and other variables involved in normative changes may be more well-prepared than those in non-normative changes, both changes require the formulation and reformulation of the roles during the transitions process (Meleis, 1975). These changes may lead to role transitions issues. For instance, in lifespan changes, which range from childhood to elderly, one can counter drug abuse and retirement issues (Meleis, 1975). Moreover, patterns of such transitions are conceptualised as sequential, simultaneous or multiple (Meleis et al., 2000). These types of transitions and patterns mean that the transition is a complex process, and it is possible that multiple transitions can happen simultaneously during a certain period of time (Schumacher and Meleis, 1994).

However, not all changes are transitions. According to Meleis et al. (2000), there are five universal properties of transition: (1) awareness, (2) engagement, (3) change and difference, (4) time span, and (5) critical points and events that distinguish transitions from changes. Such properties facilitate identification of the movement of individuals or organisations involved in transitions (Meleis et al., 2000). For instance, changes in identities, relationships, and abilities become universal properties of transitions at an individual level (Catanzaro, 1990, Pridham et al., 1991). Meanwhile, at the organisational level, changes in structure, function, and dynamic are expected to occur (Tierney et al., 1990). These properties become indicators that distinguish transition from non-transition change (Meleis et al., 2000). According to the authors, in order to understand a transition comprehensively, the types, patterns, and properties of the transition, as well as their impacts, should be understood.

4.2.3 Transition Conditions and Process Indicators

There are many factors that contribute to the role transitions, with those factors serving as either enabling or disabling factors in transitions. Meleis (2010) suggested that all factors operate at three different levels: (1) individual, (2) community, and (3) society and that any issues influencing the transition process should be explored. She included factors related to meaning, cultural beliefs and attitudes, socioeconomic status, in addition to preparation and knowledge as individual factors. She highlights that individuals' perspectives, as well as cultural beliefs around the meaning of transition, can affect the process. Moreover, the levels of knowledge and skill required to effectively perform the new role are also important to understand; in particular they should be sufficient to meet the expectations of the new role (Meleis, 2010).

In organisational transitions, professional role changes are influenced by the 'host' institution's context. Thus, the interaction among human agency and structure within the organisation or wider context can potentially become enabling or disabling factors of the transition process (Meleis et al., 2000). Such interactions are considered as an iterative part of establishing and evaluating the transition process. The concept of transition conditions facilitates exploration of these various factors in order to give continuous support.

Moreover, Meleis et al. (2000) highlighted that since the transition is a long-term process, identifying process indicators are necessary. Process indicators in transitions theory, include: (a) feeling connected, (b) interacting, (c) location and being situated, and (d) developing confidence and coping (Meleis, 2010). These indicators facilitate early detection of whether the transitions in question will move towards healthy or vulnerable conditions. Thus, appropriate interventions can be immediately injected into the process of transition, whenever necessary, in order to redirect movement in the desired direction.

4.2.4 Role Insufficiency and Outcome Indicators

Role insufficiency is a result of vulnerable conditions of transitions (Meleis, 1975). According to her, when definitions and role norms are not well distributed and supported across system levels, role insufficiency occurs. The manifestation of role insufficiency can take different forms, such as: (a) anxiety, (b) powerlessness, and (c) frustration. These conditions may prevent the progression of an individual or organisation towards transitions (Meleis, 1975).

Expected outcome indicators included in Meleis transition theory are: (1) mastery of knowledge and skills required for the new roles, (2) fluid integrative identity, (3) subjective well-being, and (4) relationships well-being (Meleis et al., 2000). Such indicators represent a high quality of experiences of people involved in transitions, where their goal is to ensure that the transitions will be healthy (Meleis et al., 2000). Role insufficiency, on the other hand, indicates a vulnerable transition process. Mastery and fluid integrative identity also serve as determinants of when the transitions are complete. However, that determination is flexible, being based on the context of transitions (Meleis et al., 2000).

4.2.5 Role Supplementation and Nursing Therapeutics

Issues during transitions that may lead to role insufficiency should be addressed using role supplementation. Role supplementation is defined by Meleis (1975, p.267) as:

“Any deliberative process whereby role insufficiency or potential role insufficiency is identified by the role incumbent and significant others, and the condition and strategies of role clarification and role taking are used to develop a preventive or therapeutic intervention to decrease, ameliorate, or prevent role insufficiency.”

Role supplementation can be used as a form of prevention and therapeutic intervention. When role insufficiency has occurred, then therapeutic role supplementation should be used. However, if potential problems in transitions can be detected early, then role supplementation is used as a preventive intervention to clarify individuals' roles for anticipating transitions (Meleis, 1975).

In supporting, or at least countering, role insufficiency, role supplementation is implemented into components, strategies, and processes. Components of role supplementation include role clarification and role taking (Meleis, 1975). Any interventions injected during transition process aim for these two components. An intervention is considered to be effective when individuals have mastered the knowledge and skill that they need, and then accept and perform the role comfortably. Meleis proposed three strategies that can be used to achieve role clarification and role taking: (1) role modelling, (2) role rehearsal, and (3) reference group interactions. The key feature of role modelling is through imitation, where individuals learn the new role by observing other people performing the role. Meanwhile, in role rehearsal, individuals are expected to internalise their role. This process facilitates them to understand their feelings and attitudes towards their new role in order to minimise role insufficiency. Lastly, the reference group is a strategy to address role insufficiency by involving an individual, a group of individuals or a specific service to support role transition.

Communication and interactions are the main tools employed to carry out those three strategies (Meleis, 1975). She then concluded that the fundamental concept of role supplementation is to support transitions through the integration of: (a) role clarification, (b) role taking, (c) role modelling, (d) role rehearsal, (e) a reference group, (f) communication, and (g) interaction.

The next following sections continue to present findings and discuss issues related to transitions context and conditions by using transition theory of Meleis, the middle-range theory (MRT) of this study.

4.3 Challenges in the Emergency Department

The emergency service in Indonesia's hospitals is categorised into four levels: I, II, III, and IV. The categorisation is based on types of specialist service and advanced intervention available in the hospital. There are more than 2,500 hospitals and health centres across Indonesia that provide different levels of emergency services, from level I to IV (MHRI, 2016). A level IV emergency department is the highest level of emergency service (major), which only exists in a type A hospital. Besides providing subspecialist service and complex interventions, a type A hospital is a major referral hospital that also serves as a teaching and research centre (MHRI, 2009).

The hospital in this study is a type-A hospital with 1,052 beds in total (MHRI, 2019c). The hospital provides a twenty-four hour, seven days a week level IV (major) emergency service. The emergency department (ED) offers specialist and sub-specialist consultation, whenever needed, including (1) paediatrics, (2) internal medicine, (3) surgical, (4) neurology, (5) obstetrics and gynaecology, (6) psychiatry, (7) forensics, (8) ophthalmology, (9) ear, nose, and throat, and (10) dermatology. Supporting services such as laboratory testing, radiology, and pharmacy are also available in the ED.

Internationally, such as in the United Kingdom (UK) and United States, such classification of the emergency department is similar. In the UK, for instance, there are three types of emergency departments, which are type 1, 2, and 3. A type 1 emergency departments in the UK is the opposite numbering to Indonesia, but is the major emergency department level that provide a

consultant-led 24-hours service; Indonesia's level IV (National Audit Office [NAO], 2004).

An emergency department (ED) is a unique working area, where its operation is influenced by three main factors: (1) the input (community or pre-hospital setting), (2) throughput (patient flow within the ED), and (3) output (hospital admission or follow-up care in the community) factors (Morley et al., 2018). In the ED under study, there are three major issues that currently challenge the service: (1) non-urgent self-referral patients, (2) waiting patients, and (3) delayed consultation time; all of which are related to input, throughput, and output factors.

4.2.1 Non-urgent Self-referral Patients

The emergency department (ED) is usually accessed commonly through two pathways: (a) walk-in self-referral and (b) formal referral system. The average number of patients who visited the ED from January to August 2018 was 2,426, with an average number per day of 96 patients (MHRI, 2019b). This number is considered as a high visit category for a major ED because within the municipality (48.13 km²), where the ED under the study is located, 42 other hospitals also provide emergency services, most of which are at level III or lower (MHRI, 2019a). During the observation in the triage room, I noted that despite the increase of patients visiting, most of the cases presented in the ED were non-urgent cases:

During a less crowded time in the triage room, there was an average of 12 new patients per shift (an 8-hour shift), and during a crowded time, there was an average of 30 new patients coming per shift to the ED. Only 2-3 (less than 10%) of the visiting patients were assigned as a red tag triage (true emergency case) by the triage nurse. Meanwhile, the rest of the patients were assigned as a green or yellow tags triage (non-urgent patients) (Field Notes, Triage Zone).

These phenomena also happen in other major emergency departments in Indonesia (Attas, 2015, Kusumawati et al., 2019). For instance, patients who seek medical treatment in the major emergency department has increased from the year 2010 forward with the average growth of 2% (Attas, 2015). However, only 7.26% of the total case was a true emergency. Meanwhile, 47.7% of cases were yellow patient cases, and 44.96% of cases were green patient cases: the least urgent (Attas, 2015).

The increase of non-urgent self-referral patients has become a worldwide issue (Di Somma et al., 2015). This situation contributes to ED overcrowding that may increase adverse effects such as increases waiting times and delayed response times for patients (Trzeciak and Rivers, 2003, Hoot and Aronsky, 2008, Carter et al., 2014, Morley et al., 2018).

4.2.2 Waiting Patients

Beside input factors, output factors such as hospital bed shortages add more crowding in the emergency department (ED) since this leads to the delay of patient admission to the appropriate ward. However, the hospital has been gradually adding more inpatient beds; yet there are never enough to accommodate all the patients that need to be admitted as a matter of urgency. The complexity of diseases and each patient's condition is the main reason for prolonged patient care in hospital wards. As one of the national referral hospitals, the hospital participating in this study often receives patients with complex and rare diseases. Patients with such conditions require advanced treatments and a wide range sub-specialists' services that can only be provided by the hospital. Therefore, these patients prefer to wait for an available room in the ED while being treated, as reflected during my observation:

At the beginning of the shift, there was an average of 11 waiting patients in the yellow zone [non-urgent], and this number usually increased up to 20 – 24 patients (Field notes, Yellow Zone).

Meanwhile, in the red zone [true emergency patient], there was an average of 13 – 15 boarding patients. I noted that a couple of patients in the red zone were waiting for an available room in the Cardiac Care Unit and Critical Care Unit (Field Notes, Red Zone).

A previous study in Indonesia found that beside bed availability in the hospital wards, the severity level of patients has contributed to an increased length of ED stay (LOS) (Kusumawati et al., 2019). Triage tag 1 (red zone) patients, such as ventilated patients stay longer in the ED in order to be treated, stabilised, or waiting for an available bed in an advanced care unit (Kusumawati et al., 2019); an issue which also occurred in my study.

Moreover, cancer patients in the ED who could be discharged have to wait for an available inpatient bed because it is difficult to discharge such patients from the ED to the community, a health system protocol. Unfortunately, this protocol leads to yet more severe overcrowding in the ED. The possible explanation for this chokepoint lies in the availability of palliative care services in Indonesia. Such services are still considered as underdeveloped, which is evident by the limited number of institutions for patients with long-term conditions (Kristanti et al., 2017). In Indonesia, this difficult situation has emerged as a result of limited palliative care guidelines and standards, including access to opioid medications, a proper referral system, and lack of understanding of palliative care among healthcare professionals (Rochmawati et al., 2016).

The increase of non-urgent self-referral and waiting patients are the cause of ED overcrowding that often relates back to pre-hospital or community services. These circumstances confirm the urgent need to identify all problems (and their causes) in such services that may lead to ED overcrowding, in order to develop pre-hospital or community-based solutions to this critical overcrowding issue. According to Morley et al. (2018), input factors evident in pre-hospital settings, such as: (a) ineffective referral systems, (b) restricted opening hours of primary care, and (c) limited access

to diagnostic services in the community contribute to the overcrowding so evident in many EDs in Indonesia. Therefore, solutions for ED overcrowding should also specifically address the improvement of the pre-hospital or community service healthcare systems. Otherwise, regardless of different strategies used to improve patient flow (throughput factors) in the ED, overcrowding cannot be solved effectively.

4.2.3 Delayed Consultation Time

The emergency department (ED) in the current study uses generalist model, which is the common model across emergency departments in Indonesia (Kusumawati et al., 2019). This model means that general physicians work in the ED for twenty-four hours and seven days. Other specialists are available for telephone consultation or visitation, but these specialists are not based in the ED. Moreover, there are specialist medical students, each of whom is classified individually as 'resident', from certain medical specialties, such as paediatric, anaesthesia, surgical and internal medicine in the ED. Usually, as a part of their training process, they have responsibilities to answer a consultation, visit, and treat a patient who needs their speciality in the ED. Similarly, like specialists, these residents are not based in the ED.

Generalists usually consult with these residents if a patient needs further specialist assessment. However, these residents do not have a full authority to prescribe or carry out the patient's treatment. They need to consult their supervisor (i.e., senior consultant or senior staff) about the decision and obtain an approval from that supervisor. Moreover, if there is no resident available, then generalists directly consult with a specialist and wait for a further examination to determine next treatment and to carry out an examination of the patient. Generalists also do not have authority to make decisions for these types of patients. Thus, this consultation process is often the cause of delayed patient flow in the ED:

“...Because specialist residents who are assigned in the ED are not ED physicians. Their coordination line is direct to their medical department. Thus, when they need to decide about the patient’s treatment in the ED, they need to consult the decision to their supervisor. The process takes time, includes time to reach their supervisor, obtain the approval, and for their supervisor to directly visit and assess the patient (whenever necessary)” (Interview, Hector, Manager).

In the ED, the delay occurs at several different points, including the treatment zone when the final decision regarding a patient’s admission, transfer, and or discharge needs to be made; a procedure requiring a consultation process. The standard for turnaround time in the ED under the study is ≤ 8 hours for each patient. This time period is a common standard of turnaround time for major emergency departments in Indonesia, considering the complexity of diseases and patients’ conditions that need to be treated. These findings resonate with a study conducted in one major ED in Indonesia by Kusumawati, et al. (2019). They found that 29% of patients stayed in the ED around 5 – 8 hours, 29% stayed for 9 – 24 hours, and 3% stayed more than 24 hours. The study also showed that there was a significant correlation between the need for a specialist consultation and emergency department length of stay. They highlighted that obtaining a specialist consultation was often difficult and frequently disrupted the ED’s patient flow, such as the admission and discharge of patients. This problem continues to exist because the generalists staffing the ED are not authorised to make decisions for these patients.

4.3 Shared Vision towards Emergency Nursing and Medicine

The three main challenges in the emergency department (ED) acted as critical events that have forced an adjustment within the ED service. How hospitals and ED managers choose strategies, such as the triage nurse system and an integrated emergency clinical pathway reflect a shared vision amongst them. Such a vision should encourage the development of

emergency nursing and medicine to become a speciality area in the ED and work collaboratively, as well as innovatively, to address current and future challenges for the ED services.

Another strategy used by managers is the development of the ED specialist model; they call it Emergency Medical Management (EMMAN).

“We decided to change the fundamental structure of the attended specialists in the ED. We recruited specialists who posted in the ED. Thus, ED has their specialists apart from the residents or consultants of medical departments. The ED specialists work under the head of the ED so they can decide without depending on the decisions from their supervisor of medical departments” (Interview, Hector, Manager).

EMMAN consist of specialists who have a medical background in surgery, anaesthesia, and internal medicine. Currently, there are four of them, and their work is based in the ED. Therefore, structurally these specialists work directly under the line management of the head of the ED, not their medical department. Thus, these specialists can shorten the consultation time by immediately making decisions regarding patients who need a consultation related to their speciality. Other ED team members, such as emergency nurses and generalists, can directly consult with EMMAN personnel to get quick access to appropriate decisions and actions. This model bypasses having to wait for residents of medical department to obtain approval from their supervisors.

Moreover, ED team members expressed that it is *“easier for other emergency team members to coordinate and synergise the teamwork with EMMAN”* (Interview, May, Nurse). The EMMAN are based in the ED, so they have mastered the workflow and understand ED policies in detail, compared to residents.

Such a strategy also pushes forward the education and training of both emergency nursing and medicine. For instance, hospital managers have sent emergency nurses, generalists, and EMMAN to attend emergency team training abroad, and ED managers conduct team case simulation regularly. It was instantly recognised that for the ED to reach optimum function, nurses and physicians have to thrive jointly. The following quotes provide support for this idea:

“... I encourage the development of emergency nursing, basic life support, triage as well as the science of emergency nursing itself. Because Indonesia has developed emergency medicine... of course, the development of emergency medicine should be accompanied by the development of emergency nursing. It is impossible to reach high-quality service in the ED without the development of emergency nurses as the closest partner of emergency physicians” (Interview, York, Manager).

“I hope that in the process of transformation of the ED into a medical department, there is an emergency nursing speciality that will work collaboratively with emergency medicine speciality... there is a disconnection later on if only the competency of physicians that is enhanced. Because naturally, we work as a team hand in hand, when we have an emergency situation and discuss the case, but our partners do not understand the discussion, then we will work in jittery” (Interview, Hugh, Specialist).

Members of the team should understand the context of the case discussion, have relevant knowledge related to the discussed case, and continuously update their knowledge and skills. Therefore, all members will work at ease because they know that they have a team that can be relied on; a team that will provide input and support each other in delivering emergency care. Moreover, their professional organisation also aims for the establishment of “emergency nursing to become one of the specialities in nursing” (Interview, Frank, Professional Organisation).

It is worth noting that there is no department of emergency medicine in the hospital involved in my study, which is the common condition across hospitals in Indonesia. There is an agenda to establish the department in the future. However, by the time I collected data, the idea was still premature and how they will move forward with this idea remained unclear.

In Indonesia, the first specialist programme for emergency medicine was opened in 2003 at Brawijaya University (Indonesian Association of Emergency Medicine [IAEM], 2017). In 2012, the same university, opened the first master level programme in emergency nursing (Brawijaya University [BU], 2012). This notion reflected the importance of interprofessional learning and working between emergency nurses and physicians. Unfortunately, emergency nursing in Indonesia is not yet considered as a specialty area. This gap is evident by the unavailability of any specialist programmes in Indonesia that focus on emergency nursing (Trisyani and Windsor, 2019). However, 'today' is considered as the right moment for emergency nursing and medicine in Indonesia to evolve together as nurses and physicians grow from a relatively similar starting point. According to Osei-Ampofo et al. (2013), this point can be used to reinforce the development of both profession as members of a team. Interprofessional boundaries, legal authority, and reward systems are matters that can be established together (Kang, 2005).

4.4 Emergency Nurses' Role Transition

This section aims to further link and discuss contextual findings of emergency nurses' role transition using transition theory, the middle-range theory of this study. The mechanism and outcome presented in this section are only intended to (1) show their link to the context, and (2) give an overview of what is happening in the data. The mechanism and outcome will be further unpacked in [Chapter 5: Knowledge Brokering](#) and [Chapter 6: Reconstruction of Emergency Nurses' Role-relationships](#). I used *italics* to

highlight concepts drawn from transitions theory throughout my findings and discussion.

The pattern of emergency nurses' role transition has been identified as *multiple* and *simultaneous* with *situational* and *organisational* types of transition (Meleis et al., 2000) (Figure 9).

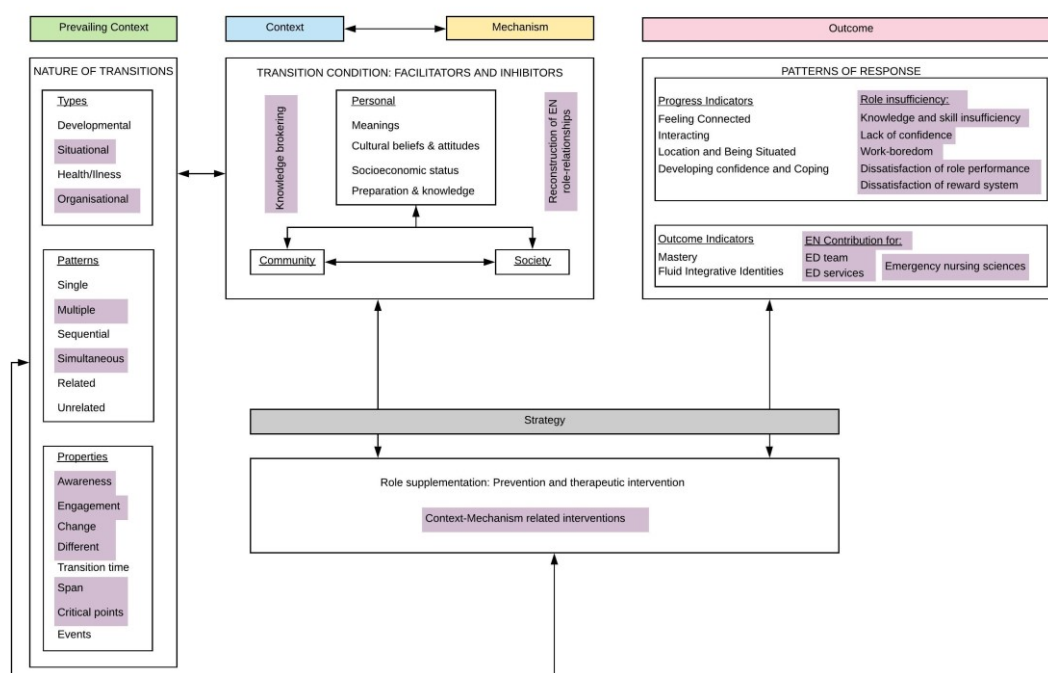


Figure 8. Middle Range Theory (Meleis, 2010, p.56)*

*) the purple colour indicates the transition concepts that emerged from the data.

Interactions from *multiple* transitions were intertwined throughout participants' interview transcripts as they talked about challenges, strategies, education and training, emergency nurses' roles, and nurse-physician relationships. *Situational* challenges, such as increased numbers of non-urgent self-referral patient visitations and waiting patients, as well as delayed response time, have enforced hospital managers to address these challenges at an *organisational* level.

Potential solutions have been pursued through the establishment of: (a) triage nurse, (b) an integrated emergency clinical pathway, and (c) Emergency Medical Management (EMMAN); initiatives which reflect a shared vision towards emergency nursing and medicine in the emergency department (ED). Such transitions lead to *multiple* and *simultaneous changes* of the working structure and interaction, particularly between emergency nurses and physicians. This condition also involves *different* expectations or outcomes in pre-existing emergency nurses' roles, as expressed by participants during the interview; expectations such as contributions to the development of ED services and emergency nursing sciences. These initiatives will require a redefinition of the roles currently existing and *change* that *spans* across the related system to support emergency nurses when performing their expected roles.

Emergency department (ED) managers, who have either nursing or medical backgrounds, and nurses even under similar circumstances, did not perceive transitions in the ED uniformly. For example, during her interview, May expressed concerns around "*the training system*" and how it can prepare nurses to perform expected roles adequately, Edina highlighted "*nurses' clinical authority*" and whether it will also transform with the role transition, and York noticed "*nurses' pay system*" and how it affects nurses' clinical performance and the role. Such concerns indicated *awareness* among ED members towards transitions by highlighting some *critical points* that they perceive may need to *change* as the transition progresses. The level of *awareness* influences the *engagement* level, and these *critical points* can increase *awareness* levels and trigger more active *engagement* in transitions (Meleis et al., 2000).

The effort of ED managers to "*send some experienced emergency nurses to attend triage course to prepare them more for the triage nurse role*" (Interview, Flo, Manager) is one of the examples of how a lower-level system *engages* and responds to the upper-level policy. *Awareness, engagement,*

changes, different, span, and critical points are properties of the transition which emerged in this study. These properties indicate the occurrence of transitions towards the emergency nurses' roles in the ED since such properties "*differentiate transitions from non-transitional change*" (Meleis et al., 2000, p.41).

Findings of the current study reflect the future direction of emergency nursing practices towards the specialisation role. A similar process also happened in the development of emergency nurses' roles worldwide during 1970s, particularly in the United Kingdom and the United States. The realist-informed review (RIR) has found that there are four milestones in emergency nurses' role transition worldwide: (1) initiation of nurses' role transition, (2) establishment of regulation, policy, education, training and related support system, (3) recognition of professionalism, and (4) evaluation of the role impact and future improvement.

Initiation of nurses' role transition was evident in my study through the emergence of transition's *properties*, as mentioned above. Moreover, a previous study in Indonesia has also identified the need to expand the role of emergency nurses in the ED (Trisyani and Windsor, 2019). However, the effort to provide evidence for the need of change is still limited, which may lead to many gaps in regulation, policy, education, training, and related support systems related to the ED nurses' role transition.

Some policies have been introduced to the ED, as noted in the current study, such as the nurse as a triage officer. These policies allow nurses to work more autonomously in some areas of the ED to address the challenges that 'come through the door' day or night. Nevertheless, strategies introduced by hospital managers do not offer enough resources to leverage the transition of emergency nurses' roles as hoped for / expected. Therefore, the process which actually occurred produced some unintended outcomes. This situation happened because three *critical points* exist within the process, including (1)

mismatch between expected roles and training availability, (2) nurses' pay system, and (3) the existence of other counteracting mechanisms that have yet to be dealt with. These *critical points* are crucial in transitions since they are parts of all four transition milestones.

4.4.1 Mismatch between Expected Roles and Training Availability

Based on the hospital guideline, emergency nurses are expected to perform three roles: (1) service, (2) education, and (3) research. Besides delivering high-quality emergency nursing care, nurses in the emergency department (ED) are expected to nurture a teaching-learning environment, conduct research, and facilitate a learning process for nursing students and staff. The latter context includes knowledge translation to support one of the hospital's strategic goals to become a learning centre for clinical training and education.

Synergy among the related bodies is necessary to support emergency nurses in realising all their expected roles. Participants in this study expressed that there is still a mismatch between roles and availability of the training.

“Emergency nursing service standard within the ED is followed professional organisation standard. However, from what we experienced professional organisation has not established all necessary training guidelines, which cover all expected emergency nurses' roles in the major ED. Perhaps this is the missing link that should become one of consideration for profession organisation to develop a training guideline based on the service needs” (Interview, Henry, Manager).

The mismatch happened because of the limited, insufficient guidelines coming from professional organisations that were specific to the training and development of nurses in a major ED. For instance, hospital managers identified that mechanical ventilator training is needed for nurses who work in

the red zone (severe patient zone) of the ED, but professional organisations have not yet developed the training that aims to improve emergency nurses' competency towards mechanically ventilated patients yet. Therefore, ED managers rotate nurses who work in the ED to the Intensive Care Unit (ICU) as a strategy to improve their mechanical ventilator competency.

Moreover, although not all EDs can provide advanced services such as mechanical ventilator, professional organisations are expected to establish a standard of education for emergency nurses that covers all areas of practice (e.g. level IV ED and below).

“To develop emergency nurses in the ED, for example, we always refer to the guideline or policy from Indonesian Emergency and Disaster Nurses Association. Every clinical pathway used in the hospital is published or recommended by the professional organisation. For example, Indonesian Cardiovascular Nurses Association and related parties developed AMI protocol for nurses, the protocol is not from hospital A or hospital B. The professional organisation developed the fundamental guideline first, and when it comes to the implementation in hospitals, then each hospital will adjust the guideline based on the hospital need, resource, and hospital policy if necessary. Without involving professional organisation, the development of a training programme is difficult and will vary” (Interview, Carla, Manager).

Role clarification towards emergency nurses is necessary to master the knowledge and skills which are needed to perform the new roles. Moreover, such clarification also serves as a foundation to develop appropriate education and training programmes. According to Meleis (1975), *role clarification* includes role-linked performance and goals. It should be clear and unambiguous for emergency nurses regarding expectations towards their new roles.

Individual nurses, physicians, and managers, as an agency, have expressed their expectations and concerns towards the nurses' new role. They also

have tried to support the transition by facilitating learning related to the role. They showed different contributions to assist the transition process based on their position and capacity as an individual agency in the ED. However, as an individual agency, they do not have enough power to reformulate role utilisation of certain professions in the ED. The use of *reference group* interactions related to emergency nurses' roles in this situation can bring benefits. Across the interview transcripts, there are three *reference groups*, (1) professional organisations, (2) hospital managers, and (3) physicians that project an interrelated influence towards emergency nurses' roles. *Reference group* interactions can facilitate mutual understanding among professional organisations, managers, emergency nurses, and physicians about the role of nurses working in a major ED. Interactions that create mutual understanding among *reference groups* can provide essential strategies to develop *role supplementation* programmes in the form of support for the progression of the role (Meleis, 1975). The inclusion of *reference groups* is central to the transition process.

However, such *references groups* should not dominantly direct the future of the emergency nurses' profession. Nurses who work in the ED should also have a strong collective voice, in the form of suggestions or recommendations, to set transition goals for the role in order to address ED challenges. These aspirations can also be forwarded to a higher level of collective voice, such as at the emergency nurses' professional organisation (ENPO) level. ENPO, as one of emergency nurses' *reference groups*, serves as the collective voice of emergency nurses. ENPO strengthens emergency nurses' position in wider social and organisational contexts by: (a) setting the future goals of the profession, (b) formulating related regulations, (c) establishing relevant education, and (d) building partnerships across related bodies. In the history of the emergency nurses' role transition, professional organisations have played an important role in setting the direction of the profession and developing related regulations and guidelines (Snyder et al., 2006). Unfortunately, in the current study, nurses' collective voice at micro

and macro levels is still limited due to several factors, which will be discussed in upcoming 'findings' chapters.

Above process showed the importance of *reference groups* to carry out *role clarification*. The clarification is an important foundation to develop regulation, policy, training, and support systems related to the role. Thus, expected outcomes of the role can be achieved.

4.4.2 Nurses' Pay System

The Indonesian Ministry of Health regulation stated that there are three components of remuneration: (1) pay for position, (2) performance, and (3) people. Then, the Indonesian National Nurses Association (INNA) specified the regulation for nurses' professional services guideline:

"Nursing service consists of eight components: educational background, certified in specific skills, length of work, position, job risk, patient's dependency, shift, and workload" (Document, Nurses' Pay System Guideline, INNA).

The guideline has included pay for the position and people component but not for the performance component. Hospital managers expressed their concern regarding the nurses' pay system that has not included performance components. They perceived that this pay system may affect nurses' levels of work enthusiasm:

"Current working system and remuneration make the loss of working enthusiast among emergency nurses. This situation may lead to dissatisfaction of role performance resulting in negative consequences" (Interview, York, Manager).

According to Meleis (1975), a reward system serves as a force to motivate role transition. There are two conditions that can describe how people respond to changes in the absence or inappropriateness of their reward

system. Firstly, they refuse to perform the new role; this reaction means that the disadvantages offered by doing transitions outweigh any benefits (Meleis, 1975). Secondly, individuals may be forced to accept the new role and adjust accordingly but with feelings of dissatisfaction resulting in *role insufficiency*, such as poor role performance (Meleis, 1975).

A systematic review to evaluate the effect of a pay for performance (P4P) programme relating to health, healthcare use, and process of care suggest that such a programme is based on an assumption of uncertain validity that financial rewards will motivate behavioural change, which in turn, should lead to expected improvements in patient outcomes and healthcare providers' performance (Mendelson et al., 2017). The authors highlighted that P4P programmes may improve the process of care in some areas, but there is a lack of evidence on patients' outcomes. Accordingly, the programme's results may reflect deficiencies in the methods that have been used to study these effects and the possibility that it takes a long time to measure outcome improvements.

Moreover, how to define and measure performance indicators will vary depending on the goals of the stakeholders involved (Eijkenaar, 2013). One way to acknowledge the performance of emergency nurses is by noting how they perform the necessary emergency nursing care process. However, the nursing process has not been well implemented across Indonesia. Therefore, INNA has not yet included this indicator, an omission caused by the limited state of emergency nursing across Indonesia.

Implementation of P4P programme for the nursing profession must first require social and organisational contexts to support individual nurses to obtain the requisite knowledge. In addition, such an innovation should provide nurses with necessary tools and resources to adequately perform all their expected roles; thus, enabling them to achieve the desired performance targets. This effort is considered necessary to differentiate low performance

that rooted in factors such as lack of skill and knowledge from ones caused by motivational or behavioural factors.

“...Remuneration of nurses’ services should be given based on their nursing care activities, no documentation you do nothing. However, the implementation of the nursing care process currently still varies across Indonesia because of several limitations, such as facilitation and access. Establishing national regulation should always take into consideration national capacity to implement the policy from Papua (East region of Indonesia), and Aceh (West region of Indonesia) not only condition in the capital city of Indonesia” (Interview, Frank, Professional Organisation).

Furthermore, besides individual indicators, the hospital also uses unit indicators that have a total of 23-unit performance index for the ED. These indicators also affect the emergency nurses’ reward system as an integrated part of the emergency team’s performance:

“Also, every unit applies the Unit Performance Index as a part of the remuneration system. This system will influence staffs’ remuneration, including the nurse. However, some of the index components sometimes have no direct correlation with the nursing indicator” (Interview, Carla, Manager).

Healthcare area is often provided in circumstances where professionals from diverging disciplines collaborate in the treatment of patients. Consequently, it is becoming increasingly difficult to define a good performance directly correlated to an individual practitioner (Eijkenaar, 2013). Therefore, according to Eijkenaar (2013) unit incentives, in which the financial risk is shared among the members in the unit, is a preferable and more equitable model. In unit incentive programmes, performance is informed through an effect on unit culture, new member socialisation, information sharing, and collaboration, which in unison can potentially lead to high-performance teamwork. Nevertheless, when employing such an incentive system may be difficult to detect and penalise a member who not contribute to the unit’s

teamwork but instead is depending on his or her peers' efforts; ultimately leading to an ineffective teamwork performance (Town et al., 2004).

Nurses' pay systems in the United Kingdom have changed over time. Different approaches were used as payment methods for the provision of healthcare services, including: (1) block budget, (2) capitation, (3) fee-for-service, and (4) performance-related pay (Marshall et al., 2014). The authors highlight that each approach has its advantages and disadvantages; therefore, the choice of approach will be based on the context and goals to be achieved. They suggest that mix approaches are commonly used as the payment system model in healthcare services. Currently, the UK's National Health Service (NHS) has implemented a new pay structure for its employees. The change acknowledges unique contributions of NHS employees in healthcare services, which depend on a flexible cohesive team in providing patient care 24 hours a day, 7 days a week, 365 days a year (NHS, 2019). The NHS emphasises that this new 'pay spine' ensures a fair system of payment for NHS employees that supports modernised inter-professional working (i.e., flexible teams). The Royal College of Nursing (RCN) uses this pay structure as the UK nurses' pay scale. The pay scale is based on a nurses' band level, which is informed by such components as their educational level and years of experience (RCN, 2017b).

It is worth noting that issues relating to the pay systems discussed by participants in the current study were attached to the current role of emergency nurses, not for their new role, as the transition process in the ED is still considered to be at an early phase. This circumstance indicates that as the role development progresses, a pay system to reward nurses in their new roles should also be reformulated. Careful planning should be carried out if the nurses' pay system wants to include performance indicators; specifically, emphasising indicators which are derived from the emergency nursing process and which accentuate the characteristics of the members of the emergency nursing profession. However, payment which is based on

modernised inter-professional working, as implemented in the UK, is as yet a possible future development for the healthcare pay system in Indonesia. Nevertheless, any methods used to construct a new pay system should take several factors into consideration. In particular, the method should reflect how nurses care for their patients as human beings and not as inanimate objects; a holistic approach valuing the psychological as well as the physical components of their patients.

4.4.3 Counteracting Mechanisms

Besides the context of mismatch between expected roles and training availability, and the nurses' pay system, it was also evident in the data that there are two underlying mechanisms that interplay in different system levels: (1) knowledge brokering and (2) reconstruction of emergency nurses' role-relationships. Such mechanisms, which will be discussed further in [Chapter 5: Knowledge Brokering](#) and [Chapter 6: Reconstruction of Emergency Nurses' Role-relationships](#), counteract the transition process resulting in *role insufficiency*, for example as expressed by Edina during the interview: "*I am not satisfied yet with how we perform our roles*" (Interview, Edina, Nurse). Feeling of dissatisfaction emerged because emergency nurses tend to more focus on physical problems than on spiritual and psychological issues; an orientation caused by their workload, delegated tasks, and inadequate training regarding how to deal with non-physical issues.

As underlying mechanisms in the current study were uncovered, possible *role supplementation*, including prevention and therapeutic interventions, are presented in [Chapter 8: Conclusion](#) as strategies to minimise or eliminate *role insufficiency*. These interventions operate within the context and mechanism of the transitions, which means that such interventions can be used to strengthen existed strategies by adding or subtracting necessary components into the context and mechanism. Moreover, interventions can also be in the form of establishing new or eliminating former strategies within

the context and mechanism. I refer to such interventions as 'context-mechanism related' interventions.

4.5 Summary

Transition theory serves as the middle-range theory (MRT) to understand the data gathered in this study. The MRT connects different concepts that have emerged from the empirical data and advances understanding of emergency nurses' role transition, resulting in the identification of issues faced in the process of transition as well as possible strategies to support the process.

Challenges in the ED, such as non-urgent patient visitation, waiting patients, and delayed response time have caused hospital managers to establish strategies, including (a) triage nurse, (b) EMMAN, and (c) integrated emergency clinical pathway, to address those challenges. These strategies reflect a shared vision towards emergency nursing and medicine in the ED of the current study, which provides the opportunity for emergency nurses to work more autonomously in some areas of the ED and to push forward the transition of the emergency nurses' role.

Unfortunately, role insufficiency is manifested within the transition process. Role insufficiency may normally emerge as the reflection of the dynamic process of transition, particularly at the early phase of that process. It should be highlighted that this condition only reflected the time point at which data were collected. However, this condition should be addressed appropriately to move forward the transition since role insufficiency is the indicator of a 'poor', incomplete or inept transition process; however, once insufficiency is addressed, expected outcomes should be produced from the process. In order to achieve this goal, it is important to understand the underlying mechanisms, including knowledge brokering and reconstruction of emergency nurses' role-relationships, which influence the transition process

across different system levels to support the process. The following chapters continue present and examine these two underlying mechanisms.

Chapter 5: Knowledge Brokering

5.1 Introduction

The following two chapters, 5 and 6, continue to present findings and discussions about two underlying mechanisms informing the transitions occurring within the emergency nurses' roles: (1) knowledge brokering and (2) the reconstruction of emergency nurses' role-relationships. These two chapters begin by displaying emerged categories and subcategories that have emerged from the interview, observation, and document data. Next, the interplay, link, and connection among them, as well as prevailing contexts presented in Chapter 4, are discussed using realist Context-Mechanism-Outcome (CMO) configurations as well as abduction and retroduction processes to further unpack the underlying mechanisms which underpin the causal forces involved.

This study highlighted three main categories: (1) transforming continuing nursing education (CNE) of emergency nurses, (2) strengthening the nurse-physician relationship, and (3) emergency nurse engagement (Table 9). The first category, which is transforming continuing nursing education (CNE) of emergency nurses, emerged as a way to improve emergency nurses' knowledge and skills through university-based specialist education and work-based learning. Meanwhile, strengthening the nurse-physician relationship category reflected the need to enhance teamwork and active flow management as well as an issue around authority intersection between the two professional groups. The emergency nurse engagement category was seen as expectations towards emergency nurses' roles, which included active contribution and job satisfaction.

These three categories were developed using conventional content analysis (CA) described by Hsieh and Shannon (2005) as the first step of the realist data analysis process (Step 1: Category Identification). The coding process began by reading and highlighting words or phrases that captured key meaning across my data set. The codes then developed from these words and phrases. Then the coded words or phrases were compared to and contrasted with each other as well as grouped to subcategories and categories based on how different codes were related and linked.

Table 9. Categories, subcategories, codes

Categories	Subcategories	Codes
Transforming continuing nursing education (CNE) of emergency nurses	Developing university-based specialist education	Constructing methods of learning
		Establishing partnerships
		Specifying emergency nursing postgraduate profile
	Valuing work-based learning	Underdeveloped certification system
		Underdeveloped clinical educational-related career ladder
Strengthening the nurse-physician relationship	Enhancing teamwork	Communication
		Give input or initiate treatment
		Integrated emergency clinical pathway
	ED nurses active flow management	Nurse-led triage
	Authority intersection	Maintain patient flow
		Decision making
Emergency nurse engagement	Active contribution	Delegation tasks
		Input for emergency department services
	Job satisfaction	Develop emergency nursing science
		Dissatisfaction of role performance
		Dissatisfaction of reward system
		Work-boredom
		Lack of confidence
		Knowledge and skill insufficiency

The first and second categories are configured as strategies. Meanwhile, the third category, emergency nurse engagement, serves as the outcome of the two underlying mechanisms: (1) knowledge brokering and (2) the reconstruction of emergency nurses' role-relationships.

Chapter 5 will discuss the first underlying mechanism: knowledge brokering. The findings from category identification will be presented first. Then, as the analysis goes deeper using abduction and retroduction processes, further results will be discussed following realist configurations. Moreover, the 'emergency nurse engagement category' will be discussed as an integrated part of the two underlying mechanisms since the configuration found that this category was the outcome of the two mechanisms. This arrangement aims to present a better understanding of the possible causality explanations within the transition process.

5.2 Transforming Continuous Nursing Education (CNE) of Emergency Nurses

Transforming the continuous nursing education (CNE) of emergency nurses emerged as the response to answering organisational expectations and issues. Improving emergency nurses' competency levels through university-based specialist education is seen as one of the future goals among participants. However, the improvement process may take more rather than less time since it needs various administrative requirements and involves several governmental and organisational bodies, for example, the Indonesian Ministry of Education and Culture and Indonesian Nursing Collegium. Therefore, informal learning is currently used as the main strategy to maintain and improve emergency nurses' competency levels in the emergency department (ED). A previous study in Indonesia also highlighted that nurses in emergency departments mostly use the work-based process of learning (Trisyani and Windsor, 2019). However, there was no further discussion around that learning process as it was not the focus of their study.

In the ED of my study, besides attending training, seminars or workshops, there are at least six other types of work-based learning methods, as follows: (1) bedside teaching, (2) case presentations, (3) patient discussion with physicians and more senior nurses, (4) clinical rotation, (5) a team round, and (6) team simulation which are used as learning strategies in the ED. The following quotes provide an illustration.

“A case discussion can help us to analyse a patient condition. For example, why the patient has this kind of blood profile result, what should we do next, why a certain treatment is a better option than the others for this patient? These questions help us think critically” (Interview, Yuki, Nurse).

“Right now, I just have been rotated to the Integrated Emergency Response System to learn how I should prepare a referral patient from a lower-level hospital. Before that, I was rotated to the red zone, and now I know how to assist a specialist when inserting CVC [Central Venous Catheter] or installing CDL [Catheter Double Lumen]. As long as we are willing to actively learn, we will eventually know how to do it” (Interview, Robert, Nurse).

Each work-based learning method offers a specific resource to obtain a certain competency through an embedded component of the resource. For example, during the interview with Yuki, as quoted above, she feels that a case discussion (strategy) has triggered (resource) her critical thinking through asking ‘why?’ and ‘probing’ (component). Robert, in the above quote, also expressed that the clinical rotation (strategy) offers him the opportunity to learning by doing (resource) on the preparation of inserting a Central Venous Catheter [CVC] or installing a Catheter Double Lumen [CDL] through active self-reflexivity (component).

However, the implementation of work-based learning is still considered less than optimal because of several factors, which lay across different system levels (Figure 9).

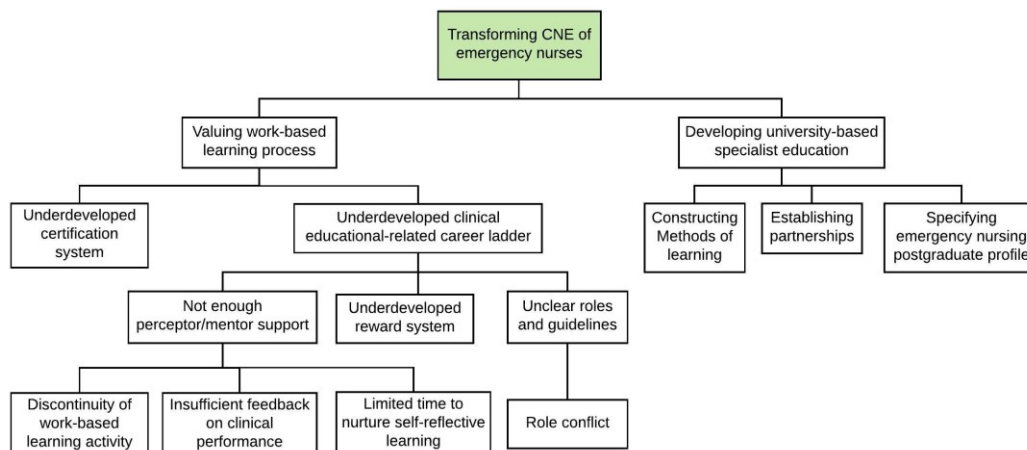


Figure 9. Transforming the CNE of emergency nurses

The following sections will further discuss and unpack the links and interplay among these factors.

5.2.1 Realist Programme Theory (RPT) 1: Preceptor and Mentor Support

Realist programme theory (RPT), as has been explained in [3.5.3 Analysis process](#), is the central aspect of the realist approach. The RPT developed in my study addressed the causation of what works (or not), how, and under what circumstances? The RPT was refined until the best plausible explanations were achieved.

The RPT 1 focuses on mechanisms associated with preceptor and mentor support. Context-mechanism-outcome (CMO) analysis explains the interplay among factors under the valuing work-based learning process subcategory. Figure 10 illustrates the connection among factors using the configuration of context and mechanism that leads to several outcomes.

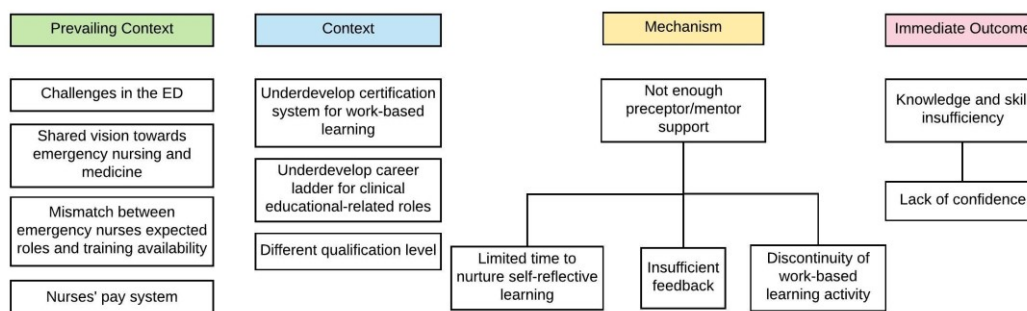


Figure 10. RPT 1: Preceptor and mentor support

Participants expressed that there is not enough preceptor and mentor support during the work-based learning process in the ED. They highlighted that their preceptors and mentors offer on-going feedbacks, self-reflective learning, and maintain continuity of work-based learning activity (Figure 10). These quotes below provide an illustration.

“Usually, when we have a morning round with the coordinator of medical and nursing service, there are many knowledge updates that we can get. For example, we learn how to perform a physical assessment of a patient with suspected abdominal trauma. From nursing science, what can we do? However, this is only temporary, when there is a staff rotation, the discussion and bedside teaching stopped” (Interview, Sarah, Nurse).

“I usually have a chat with the staff to nurture his caring and curiosity in learning. I communicate how we expect him to perform his roles. I regularly have a chat with him, but I still consider this process is very limited because of my other roles” (Interview, Flo, Manager).

“One of the weaknesses is lack of preceptor and mentor support before the credentialing process, includes the written report which contains important feedbacks from the supervision process” (Interview, Carla, Manager).

Limited preceptor and mentor support during work-based learning leads to inconsistency of the teaching-learning process in the ED. Such limitation emerged mostly as a result of the preceptor’s workload, which occurred

because of three main existing contextual issues: (a) an underdeveloped certification system for work-based learning, (b) an underdeveloped career ladder for clinical educational-related roles, and (c) different qualification levels of nurses working in the ED (Figure 10).

Policy in the ED, such as clinical rotation appears not to have taken into consideration the importance of educational-related roles; an omission that may lead to the discontinuity of work-based learning activities such as bedside teaching, as expressed in the above quotation by Sarah. This condition occurred because such ‘inconsiderate’ clinical rotation events often remove individuals who usually perform as mentors and share their knowledge with emergency nurses, with no replacement prior to the rotation process. It should also be noted that regular interaction between a mentor and the mentee helps to build trust and a secure environment for on-going giving and taking of constructive feedbacks and as well as nurturing self-driven learning.

In the ED, education roles are often attached to management roles. These overlapping roles has resulted in the increased workloads for the nurse managers. This role conflict forces nurse managers to compromise, which means either to reduce levels of expectations in both roles, or to choose one alternative and sacrifice the other.

“I am the one who usually leads a case discussion if needed during nursing pre-conference. However, we rarely have bedside supervision. Well sometimes during bedside hand over we have a short discussion. However, this is rare because of my workload...”
(Interview, Flo, Manager).

At this point, nurse managers tend to focus on their managerial roles. Thus, the educational role becomes a second priority; even more with the absence of a structured guidelines informing the educational roles or the preceptor-mentor process. The possible explanation for this omission lies in the

underdeveloped educational-related roles' career ladder. There is no certification or formal acknowledgement system that validates the learning methods used in the ED such as: (a) case discussion, (b) bedside teaching, and (c) team simulation. These existing contexts do not have enough power to leverage key resources (e.g., give on-going feedback and maintain work-based learning activity) of a preceptor and mentor to support the work-based learning process.

Indonesia uses four career pathways in nursing, which are (1) nurse clinical, (2) nurse manager, (3) nurse educator, and (4) nurse researcher. However, the nurse educator career ladder is still considered underdeveloped compared to the well-established nurse manager career ladder. Educational-related roles in the ED are becoming more obscure due to their omission from the nurses' pay system, which leads to the formal lack of acknowledgement for conducting such roles. Therefore, there is no appointed person in the ED who has a specific role that is focused on work-based learning. Hence, there is only limited allocated time for the educational role and its development; as a result, whenever possible the role is taken over by nurse managers or other, more experienced and equally busy, ED staff who also have non-educational-related roles and responsibilities. Although parts of nurse managers' functions are 'leading and controlling', which may have educational components, it is necessary to consider and promote the engagement levels of nurse managers in educational roles to reach optimum results.

Another reason for this lack of 'on-site' educational progress is that most of the work-based learning processes conducted in the ED are not yet included in the Indonesian National Nurses Association (INNA) continuous professional development (CPD) credit points.

“Nurses should gain 25 credit points within five years if they wish to renew their license. These credit points can be obtained through four activity categories including (1) professional practice, (2) scientific activities, including seminar, training, and workshop, (3) knowledge development, including researching and writing a book, and (4) community services” (Document, Continuous Professional Development Guideline, INNA).

Referring to the INNA CPD guideline, there is still a clear lack of acknowledgement within the certification system towards work-based learning types that are commonly used in the ED, including: (1) bedside teaching, (2) case presentation, (3) patient discussion with physicians and more senior nurses, (4) clinical rotation, (5) a team round, and (6) team simulation within the certification system. Moreover, there is no hospital policy, regulation, or system that can validate such activities as a legitimate learning process.

However, the mismatch between the expected roles in the ED and training availability or regulation from professional organisations has forced ED managers to employ work-based learning methods that have not yet been included in the INNA certification system. Hospitals and a wider context of organisations need to recognise work-based learning as a legitimate process of learning, so that resources and facilitation are provided and carefully designed to achieve optimum learning outcomes from these ongoing work-based sessions. There is a need to find ways of recognising work-based learning types, including via the reward system, in order to nurture the learning environment and facilitate learning in everyday practice.

‘Mastery of knowledge and skills needed for conducting all expected roles’ is one of the outcome indicators in transitions (Meleis et al., 2000). Preceptors and mentors, who come from a different educational background, serve as the *reference group* that support the knowledge and skills transitions of emergency nurses. Through the process of teaching-learning in practice, they use a *role modelling* strategy by demonstrating, for instance, how to

triage patients or use an integrative emergency clinical pathway. This role modelling allows individuals, in my case emergency nurses, to understand and imitate the intricacies of the procedures involved in such roles (Meleis et al., 2000).

Moreover, under a preceptor's or mentor's guidance or supervision, emergency nurses can perform *role rehearsal* by safely demonstrating the procedures needed to enact their roles. *Role rehearsal*, therefore, has an important function to anticipate and plan future actions by mastering different variables of change and response associated with role transitions (Meleis et al., 2000). *Role rehearsal* is also a crucial step towards *role taking* (Meleis et al., 2000). However, in my study, the process of mastering such knowledge and skills has been handicapped because there are not enough preceptorships and mentorships as a result of inadequate support from a wider level of the system.

The interaction among prevailing context, context, and mechanism has led to unintended outcomes; specifically, knowledge and skills insufficiency among emergency nurses, so preventing them from effectively performing all their expected roles.

“New staff who work in the emergency department ideally should enter an internship programme first perhaps for 3 – 4 months. They are not assigned to deliver care for a patient yet. Instead, they obligate to shadowing their preceptor for bedside learning. Unfortunately, this is impossible to be carried out due to the nursing shortage and the workload of the seniors” (Interview, May, Nurse).

“I think that we have not possessed adequate competency to perform all expected roles in the ED. We focus more on physical condition and often miss the spiritual or emotional part of patient care” (Interview, Edina, Nurse).

“More training should be added. So much to learn. We are usually assigned in the yellow zone [minor patient], but when we have to treat a red patient [more severe patient] we feel unconfident” (Interview, Robert, Nurse).

Robert then continued to list some training in the ED that he considered as necessary, such as *“end-of-life care”* and specific training for frequent intervention, for example, *“intubation preparation and CAPD [Continuous Ambulatory Peritoneal Dialysis] care”* (Robert, Interview, Nurse). Knowledge and skills insufficiency lead to a lack of confidence among emergency nurses.

Some studies in developing countries have shown a similar phenomenon; the lack of both formal and informal education related to emergency nursing (Charlton et al., 2011, Bell et al., 2014, Martel et al., 2014, Scott and Brysiewicz, 2016). As a result, emergency nurses only have limited knowledge and skills, effectively preventing them from providing high-quality emergency services in the ED (Martel et al., 2014).

Ideally, nurses who wish to work in the ED are required to have a minimum of 1 – 2 years post-registration experience. However, finding nurses with this level of qualification to start working in the ED is really hard because usually, those nurses already have settled careers at the institution where they are employed. Such circumstances, along with the nursing shortage, force hospital managers *“to recruit newly nursing graduates to work in the ED”* (Carla, Interview, Manager). Therefore, ED managers need to assign nurses in different posts based on their level of competency.

The working area of the ED covers not only new patients but also waiting patients, who sometimes should wait in the ED for more than 1 – 2 days. The cause for such a waiting period is because the ED does not have a care facility that can serve as an observation unit for patients who require admission from the ED. This situation leads to another problem for the ED

service, since the ED normally does not provide food for the patient, which the hospital wards usually do.

The waiting patients, like the new patients, have different levels of severity, including patients from the red zone, who are often attached to a mechanical ventilator or other advanced medical equipment. Thus, ED managers are struggling to assign nurses to an appropriate working area of the ED based on their qualification level.

“The problem is that our ED treats not only new patients but also waiting patients. For example, stroke patient, our nurses had treated and eliminated life-threatening situation, but since there was no available room in the ward, the patient becomes one of waiting patients in the ED. After we conducted an evaluation, our nurses only have limited knowledge to deliver nursing care for more than 24 - 48 hours of the stroke patient” (Interview, Henry, Manager).

Most waiting patients in the ED is also difficult ‘to refer’ because these patients usually have a complicated condition that often requires subspecialist services. Since the hospital in my study is a referral hospital that provides such services, these patients prefer to wait in the ED until there is a room available in the designated ward. Therefore, the work of nurses in the ED seems to extend, in practice, to cover acute care.

In high resources countries such as the UK, US, and Australia, there have been clearer definitions of the scope of practice regarding emergency nurses (ENA, 2011b, CENA, 2013, RCN, 2018a). Other regulations related to emergency nurses’: (a) work-based learning, (b) certification, (c) accreditation, and (d) credentialing have also been well established (RCN, 2018b, Board of Certification for Emergency Nursing [BCEN], 2019). Moreover, in the UK, for instance, there is a separation between the ED and acute medical unit. The acute medical unit (AMU) is the first entry for patients who are referred to a hospital by patient’s general practitioner (GP) or who

require admission from the ED (National Institute for Clinical Excellence [NICE], 2018). The ED team gives initial care; assesses, treats, and stabilises patients. Patients from the ED who need further treatment or observation are sent to AMU. Afterwards, the AMU team with its specific expertise continues to treat patients from the ED (Kremers et al., 2019). Patients from the AMU are expected to be discharged home or moved to a speciality ward within 24 – 72 hours (Ward et al., 2009).

Although there are differences in implementation around separation or integration between the ED and AMU across UK regions, the regulations are clear and well established (NICE, 2018). This system maintains emergency turnaround time targets by minimising the number of waiting patients in the ED and, at the same time, allowing further observation and treatment for each patient (NICE, 2018). However, in Indonesia there is no clarity coming from the professional organisation regarding the scope of practice of emergency nurses working in the ED. Related professional organisations need to regulate such scope of practice, as this action will have a ripple effect throughout competency, education, training, and the staffing system of emergency nurses, as well as management, regarding the issue of managing, as well as reducing the numbers of, waiting patients in the ED.

5.2.2 Underlying Mechanism 1: Knowledge Brokering

The process of refining realist programme theory (RPT) 1 continued through the understanding of interconnection of concepts between valuing work-based learning and developing university-based specialist education and the relation (or not) to preceptor and mentor support.

The interaction within the data revealed the dispersion view among different groups of participants towards the two subcategories: (1) valuing work-based learning process and (2) developing university-based specialist education (Figure 11).

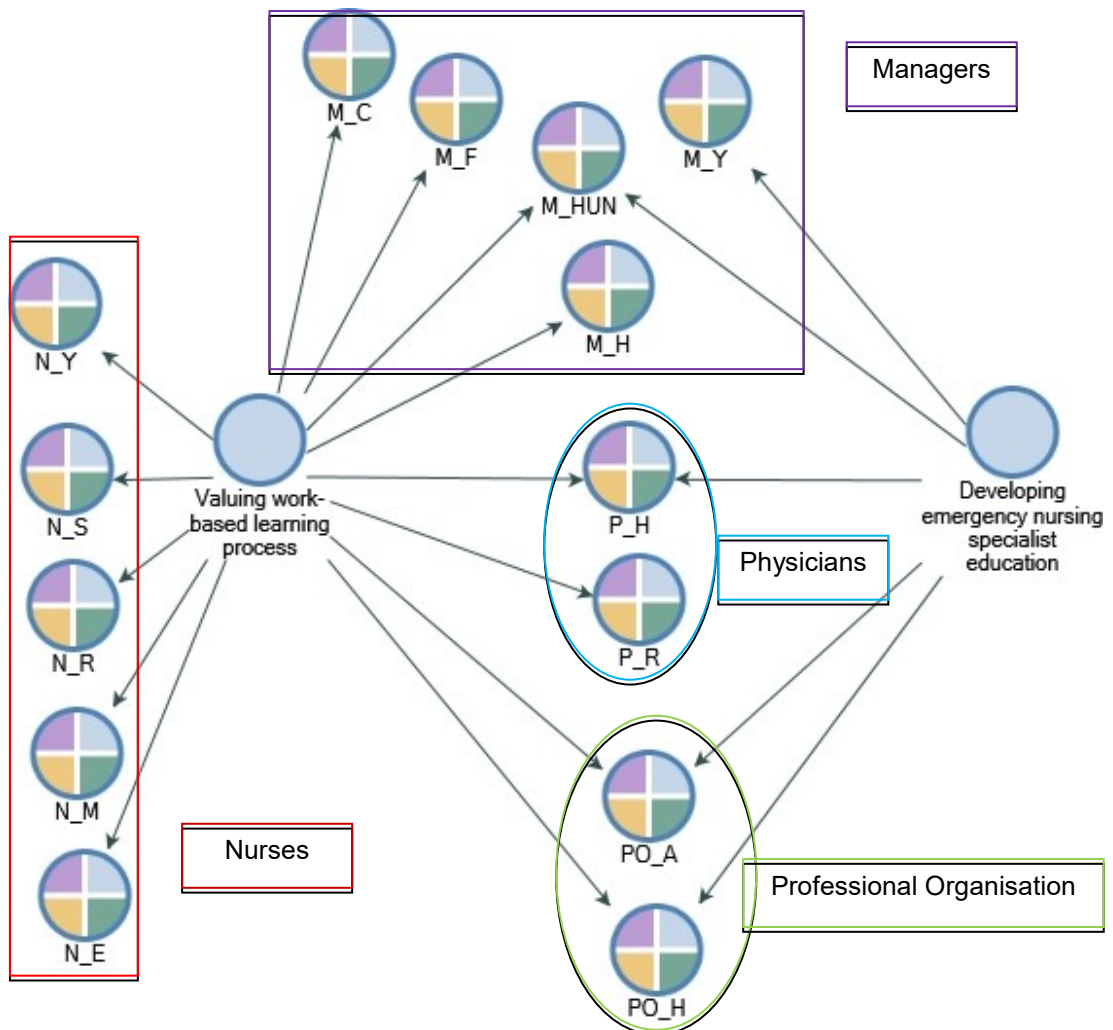


Figure 11. Participants' dispersion view*

*) First letters are N = Nurses; M = Managers; P = Physicians; PO = Professional Organisation.

Participants from a group of nurses and professional organisations showed a noticeable tendency in their views regarding emergency nurses' continuing education compared to the other two groups of the participants. Nurses tend to focus on the work-based learning process. At the same time, representatives from the two professional organisations agreed that it is necessary to establish both work-based and university-based continuing nursing education (CNE) for emergency nurses.

“...Advanced or specialist competency for emergency nurses should be gained from formal education because it is stated in our nursing act about the definition of professional nurses are those who graduated from a university or higher education institutions. However, it is also necessary for hospital managers to maintain competency, nurture leadership, evidence-based practice of emergency nurses through the work-based process” (Interview, Kaley, Professional Organisation).

Demi-regularities within the flow of developing a university-based specialist education subcategory were found always to lead back to the ED-based learning. For instance, from the interview, York highlighted the importance of *“choosing appropriate teaching hospital”* and *“partnership”* to train future emergency nursing specialist students. Meanwhile, Kaley emphasised the necessity to have *“structured teaching-learning process in the ED”* to construct students’ specialist knowledge and skills. Such demi-regularities showed that although participants push forward emergency nursing specialist education to a higher education institution, they expect the learning process to be more oriented towards the nurses’ ED-base.

Work-based learning is not a substitute for formal learning; instead, it is complementary. Continuing nursing education, including formal and informal learning, can improve nurses’ competencies, and hence contribute to nurses’ ability to develop nursing practice (Clarke and Copeland, 2003). The discussion around the strengths and weakness of both formal and informal learning is continuing today. The complexity of diseases and diverse populations requires nurses to have a minimum degree-level education to deliver and co-ordinate high-quality care. The United States’ Institute of Medicine (IOM) stated that formal learning allows nurses to analyse and synthesise information to make critical decisions, which are associated with better patient outcome (IOM, 2011).

Moreover, advanced knowledge gained from a formal education such as university, is seen as a source of professional power (Coburn, 2014); the

advanced practitioner who possesses the advanced knowledge has the ability to: (a) construct, (b) maintain, (c) transfer, (d) assess, and (e) revise the knowledge system of the discipline (Freidson, 2001).

Formal classroom-based learning has its benefits. However, it is often accused of making too little contribution to clinical practice because classroom-based learning is less relevant to the real-world situation in practice (Phillips, 2012). Informal work-based learning has attracted nurses and managers because it is the method for developing competencies without leaving the workplace (Phillips, 2012). This circumstance means that the nursing rotation does not have to be changed (Phillips, 2012).

Attributes of the university-practice gap, including relational problem between the university and clinical practice, are evident. For example, a theory is 'not understood' at the practice level; thus it is considered as irrelevant to practice issues and needs (Greenway et al., 2019). Strengths and weaknesses in implementing each type of learning provide possible explanation regarding the different views about continuing nursing education that were evident among participants in this study.

Manley et al. (2009) highlighted that work-based learning has the potential to transform health care services through: (a) research, (b) the implementation of evidence, and (c) translation of knowledge from theory into everyday practice. Such goals were also expressed among participants in my study.

"I think emergency nurses are not able to explore their speciality yet... they cannot identify the need of the emergency department and develop accordingly yet... Therefore, I think that there is not enough input from nurses for the emergency service" (Interview, Hugh, Specialist).

Interviewed participants expected emergency nurses to contribute more to the development and transformation of emergency department services,

emergency nursing sciences, and related policy. Such expectations are considered as the long-term outcomes of emergency nurses' roles. To achieve these outcomes, preceptor and mentor support, which only aims to maintain and improve emergency nurses' knowledge and skills, is no longer enough and also is less relevant as the underlying mechanism. These circumstances have pushed forward the underlying mechanism to move beyond preceptor and mentor support.

5.2.2.1 Knowledge Brokering

As discussed in the sections below, through abduction and retroduction processes of analysis, I configured that knowledge brokering is the key causal mechanism of what is happening under the category 'the transforming of the continuous nursing education of emergency nurses'. Knowledge brokering explain the demi-regularities in my data that lead to the elaboration of conceptual schemes.

According to the Canadian Health Services Research Foundation (CHSRF), knowledge brokering is the activity of connecting people to people or information in order to better understand needs, goals, ideas, evidence, and to build partnerships (CHSRF, 2003). Knowledge brokering catalyses the translation process of knowledge in everyday practice as well as informs policies (Harvey et al., 2011, Moore et al., 2018, Wollscheid et al., 2019). The outcome of such a process is not only to facilitate knowledge transfer but also beyond; to transform practice by facilitating knowledge sharing and generating a common understanding of objectives, such as research, innovation, and policy across groups, organisations, and stakeholders (Hargadon, 2002, Dobbins et al., 2009, Currie and White, 2012, Traynor et al., 2014).

Knowledge brokering has allowed me to look beyond preceptor and mentor support and gain a deeper understanding of the interaction across prevailing contexts and mechanisms, as well as immediate and long-term outcomes.

The perspective allows me to engage with other causal mechanisms that contribute to the second empirical finding: reconstruction of emergency nurses' role-relationships. Therefore, such a perspective highlights causal mechanism that goes beyond agency actions and reshape structure in particular ways, the process of structural elaboration.

5.2.2.2 Transition Conditions

Critical realism concepts in which distinguish between structure and individual agency, are useful for challenging the enquiry line of realist programme theory (RPT) 1. It is worth noting that a structure in a critical realism was assigned to particular groups that have synchronic effects in producing powers (de Souza, 2013). Preceptor and mentor support are important and real as such support is one of the mechanisms triggered in the RPT 1. Preceptors and mentors, as individual agencies, have powers that can offer particular resources within the work-based learning process, e.g., improve emergency nurses' levels of knowledge and skill. However, the structure (i.e., particular groups who own powers), in which such mechanism operates have dissimilar powers that can influence the same process differently and may produce a variety of outcomes (de Souza, 2013). The following sections will discuss interactions between structure and agency in the context of knowledge brokering.

The work of Fernandez and Gould (1994) highlighted the different roles of individual in knowledge brokering, including: (1) liaison, (2) itinerant broker, (3) representative, (4) gatekeeper, and (5) coordinator. The first two roles broker knowledge across groups (liaison) or into a group (itinerant broker) to which the broker does not belong. Meanwhile, the last three roles broker knowledge into a group to which the broker does belongs (Fernandez and Gould, 1994). The distinction of whether the broker belongs to the group or not is necessary because power differentials influence knowledge brokering outcomes (Fernandez and Gould, 1994). The power difference means that liaison and itinerant broker roles may be difficult to enact, in which case peer-

to-peer knowledge brokering will be more effective. This latter approach places emphasis on how power and legitimacy shape potential knowledge brokering at both individuals and group levels (Shi et al., 2009).

Roles of knowledge brokering in the ED of my study have been seen performed by individuals either from different professional groups or via peer-to-peer. Physicians are one of the knowledge brokers for emergency nurses in the ED. For example, before staff rotation was initiated a physician, as the coordinator of medical and nursing services, used to perform a knowledge-brokering role as an itinerant broker. For example, the coordinator would broker clinical knowledge regarding *“how to perform a physical assessment on a patient with suspected abdominal trauma”* (Interview, Sarah, Nurse) for a group of emergency nurses. Sarah showed how she valued the coordinator role of brokering knowledge by expressing her disappointment about the discontinuity of discussion and bedside teaching when the coordinator was rotated to another department. Another example, Yuki, a nurse, as noted in the transcript, plays the gatekeeper role for her team, i.e., brokering knowledge about benefits of the new pack for green tag patient from the insurance team. She also takes a representation role of knowledge brokering by representing the interest of her team to others, e.g., new specialist residents.

These processes mean that agencies either from other professional groups or peers who perform knowledge brokering roles, are generally accepted, and are not necessarily influenced by power differences, as highlighted by Shi et al. (2009). Although, according to Currie and White (2012) social structures in healthcare, such as (a) diverse education, (b) training, and (c) career pathways for professional groups can become disabling factors for knowledge mobilisation but this problem is not evident in my study. Physicians and ED managers with medical backgrounds have pushed for emergency nurses to evolve together with emergency medicine. Emergency nurses in my study have received benefits of gaining related knowledge and

skills to perform expected roles from such relationships, since physicians often become one of the resources of knowledge updating for emergency nurses, i.e., as happens during initial training development for emergency nurse practitioners (Snyder et al., 2006).

Therefore, role-relationships, particularly nurse-physician relationship, become one of the most important contexts in knowledge brokering; a relationship which also relates to the 'professionalisation' process. Detailed discussions regarding such relationships will be presented in [Chapter 6: Reconstruction of Emergency Nurses' Role-relationships](#).

At the individual level, knowledge brokers are expected to have the capacity to broker to others such as skills as those needed in: (1) teaching and mentoring, (2) project management, and (3) synthesising evidence (Currie and White, 2012, Bornbaum et al., 2015). The capacities possessed by knowledge brokers should allow them not only to maintain and improve emergency nurses' knowledge and skill levels but also beyond; to nurture an environment where transformation related to emergency nursing practice, emergency department services, and related policy is possible. Kislov et al. (2016) further distinguished in detail the knowledge brokers' skills based on three different aspects: (1) information management, (2) linkage and exchange, and (3) capacity building. Such skills are considered as essential requirements for the realisation of knowledge brokering (Kislov et al., 2016).

Knowledge brokers' roles in the ED within my study were found to be attached to other roles such as 'manager' or 'nurse'. Other studies also showed a similar tendency of which knowledge brokers' roles were attached to and part of managerial roles (Currie et al., 2014) and / or practitioners' roles (Wright, 2013). There have also been studies that try to design, implement, and examine mentoring roles that can support knowledge brokering (Abdullah et al., 2014, Gagliardi et al., 2015). Individual brokers use their skill in between roles to translate knowledge into practice or inform policy. Such

an intermediary position is exactly the strength that enables brokers to link separated parties (Lomas, 2007). However, the broker's position may also lead to role ambiguity since performing in such position requires a certain degree of neutrality in responding to different interests and needs (Chew et al., 2013, Bornbaum et al., 2015).

In my study, the functions of brokering demonstrated by individuals at this level were most focused on brokering knowledge to emergency nurses that related to patient care or direct practice. The process reflects how *reference groups* decide to actively *engage* in improving knowledge and skills of emergency nurses, as a part of the transition process. However, barriers at social and organisational levels, such as low priority on the brokering process may lead to a lack of clarity, guidance, recognition, and support for conducting such brokering roles. These situations present even more challenges to the implementation of knowledge brokering (Chew et al., 2013, Lockett et al., 2014, Traynor et al., 2014). Such barriers also occur in my study, as reflected by the underdeveloped certification system for work-based learning. The complexity of the relationship between the healthcare system and professional organisation may become the influence factors relating to knowledge brokering process.

Therefore, Currie and White (2012) suggest that knowledge brokering should be performed both by both individual and collective brokers. Groups, institutions, or related organisations should broker knowledge within wider contexts. Thus, the barriers across different structures can also be mediated through collective brokering (Currie and White, 2012). In the current study, the hospital decision to send emergency nurses abroad to attend emergency training is evidence of 'collective brokering' within the institution. However, similar to individual brokering, the act of collective knowledge brokering is still limited by its focus on the improvement of emergency nurses' knowledge and skills. Other wider functions of knowledge brokering, such as informing policy, practice, and model of care, are yet to be seen.

In relation to Meleis' transition theory, the MRT of this study, failure to conduct knowledge brokering is one of the underlying mechanisms that mostly counteract or hinder a smooth transition process of the emergency nurses' roles, which operate at individual, organisational, and social system levels. *Role supplementation*, in the form of strategies, related to knowledge brokering should be developed. Thus, the strategy can be used to support emergency nurses' role transition. Strategies to gain long-term outcomes, such as active contributions of emergency nurses to improve ED services and emergency nursing sciences, must include change and support from across systems to allow knowledge brokering to be realised and then function effectively. Once these goals are achieved sustainable knowledge brokering in the ED can be maintained. Figure 12 below illustrates the interactions of knowledge brokering at different system levels.

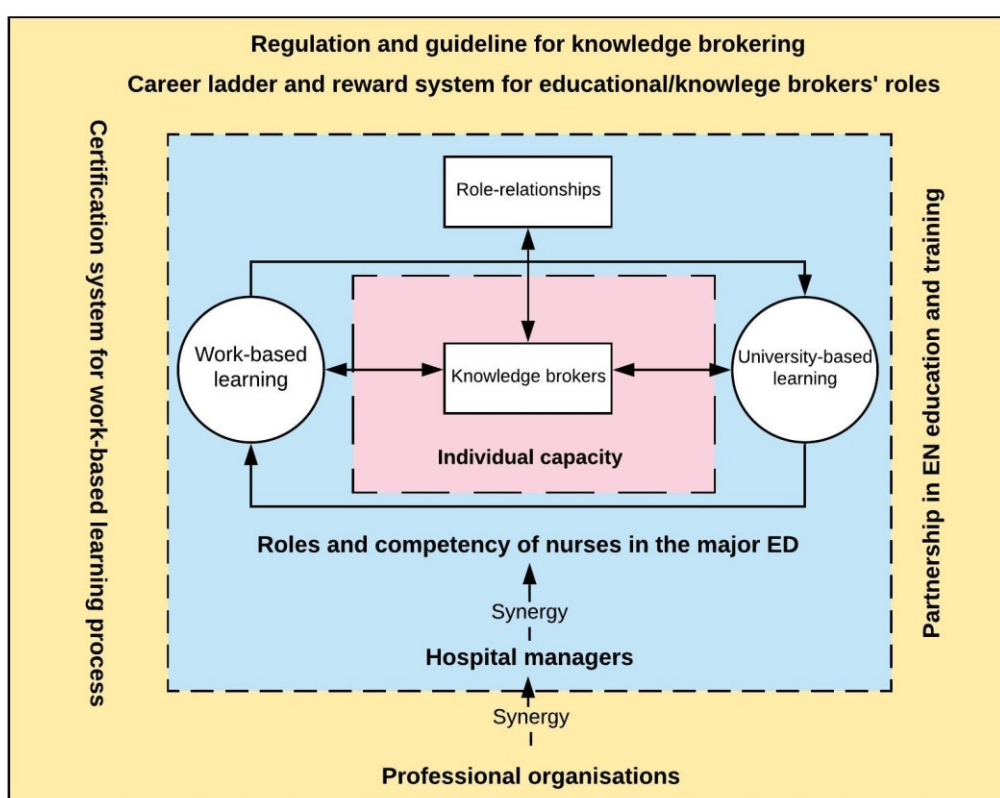


Figure 12. Interactions of knowledge brokering*

*) Yellow indicates the social context; blue indicates the organisational context; pink indicates the individual context.

It should be noted that the knowledge brokering process emerged from the data of the current study that focuses on education and training of emergency nurses. Individuals have different levels of capacity to broker and are limited by what brokering functions they can perform. Organisations need to acknowledge each individual's potency, and then invest and support their potential brokering roles. Knowledge brokering not only facilitate emergency nurses in gaining expected knowledge and skills but also nurtures conducive environments for knowledge translation in the ED; knowledge gained from either university-based or work-based learning processes. Such roles also inform policy oriented towards improving the quality of emergency nursing care and ED services. However, these goals can only be achieved if knowledge brokering is performed simultaneously by individuals and collective brokers. Areas of focus are: (1) collective brokering of related professional organisations and institutions to build partnerships in emergency nursing education and training, (2) a certification system for work-based learning, and (3) the knowledge translation process.

5.2.2.3 Refined realist programme theory 1

Based on the retroduction process, which have been discussed in the previous sections, the realist programme theory (RPT) 1 was refined from focusing on 'preceptor and mentor support' to 'knowledge brokering'. Figure 13 illustrates the refined RPT 1 in the form of context-mechanism-outcome (CMO).

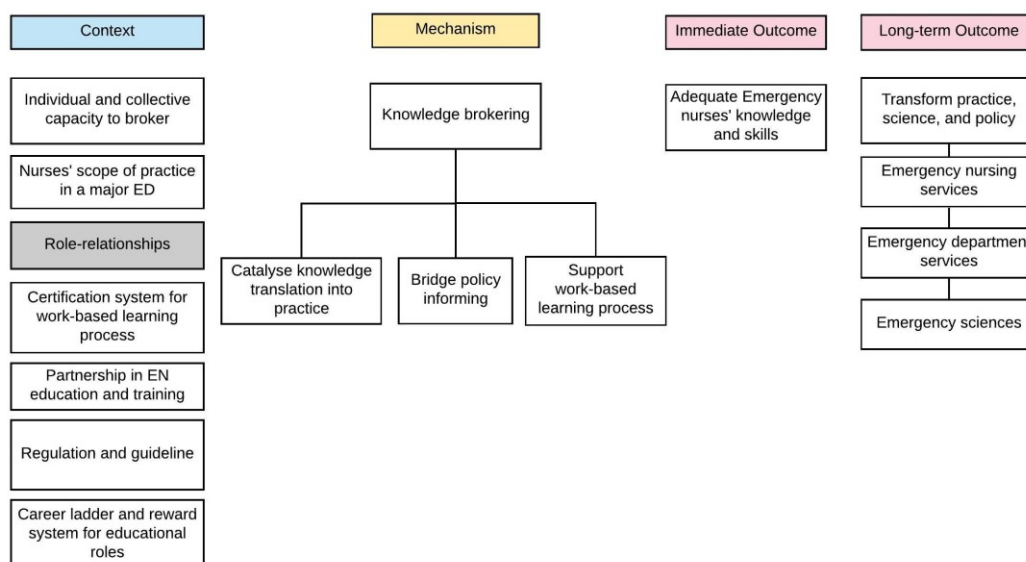


Figure 13. Refined RPT 1: Knowledge brokering

Simultaneously, the refined RPT 1, resulting from the analytical process of retroduction in this chapter, is expressed succinctly in the following statement:

***If** the capacity of individual and collective brokering is acknowledged and nurtured; the scope of practice of nurses in the major ED and role-relationships are clearly defined; partnership in EN education and training, certification system for work-based learning process, regulation, guideline, career ladder and reward system for educational roles are well established (context), **then** this will support knowledge brokering (strategy) resulting in the enhancement of emergency nurses' knowledge and skills (immediate outcome), which lead to the transformation of practice, science, and policy (long-term outcome), **Because** knowledge brokering catalyses knowledge translation into practice, bridges policy informing, and supports work-based learning process (mechanism)."*

5.3 Summary

This chapter highlights that knowledge brokering is central for emergency nurses' role transition. The process should be performed by both individual and collective brokers to allow mediation at wider social and organisation contexts. Moreover, the use of knowledge brokering should cover activities that can improve the knowledge and skills of emergency nurses and transform policy, as well as building partnerships related to emergency nursing education and training.

Findings in the current study show that the knowledge brokering process still focuses on solving issues related to education and training of emergency nurses. Other knowledge brokering functions, such as catalysing knowledge translation into evidence-based practice and bridge policy informing related to the development of emergency services, are still rare. Therefore, long-term outcomes, which include transforming practice, science, and policy are yet to be realised. Considering the impact that can be given by knowledge brokering, organisation and wider social systems should invest more towards achieving such a strategy. All necessary contexts and resources that can leverage knowledge brokering should be developed accordingly.

The next chapter presents findings related to the 'reconstruction of emergency nurses' role-relationships'. As more processes revealed in the data, links between knowledge brokering and reconstruction of role-relationships are examined.

Chapter 6: Reconstruction of Emergency Nurses' Role-relationships

6.1 Introduction

This chapter discusses the second underlying mechanism: reconstruction of emergency nurses' (EN) role-relationships within the transitions of the emergency nurses' roles. The findings from category identification will be presented first. Then, further results and interconnections between the reconstruction of EN role-relationships and knowledge brokering as well as wider social and organisational contexts will be discussed.

6.2 Strengthening the Nurse-Physician Relationship

'Strengthening the nurse-physician relationship' category was generated from three processes which emerged as responses to the social and organisational contexts, including enhancing teamwork, emergency department (ED) nurses' active flow management, and authority intersection (Figure 14).

ED managers try to address challenges in the ED by optimising throughput factors, although this effort needs to be collaborative with other authorities by also resolving problems in input and output factors. There are two salient strategies used by ED managers to improve throughput factors: (1) nurse-led triage and (2) initiation of an integrated emergency clinical pathway. These two strategies are considered as the manifestation of a shared vision among hospital managers of how emergency nursing and medicine in the EDs could and should be.

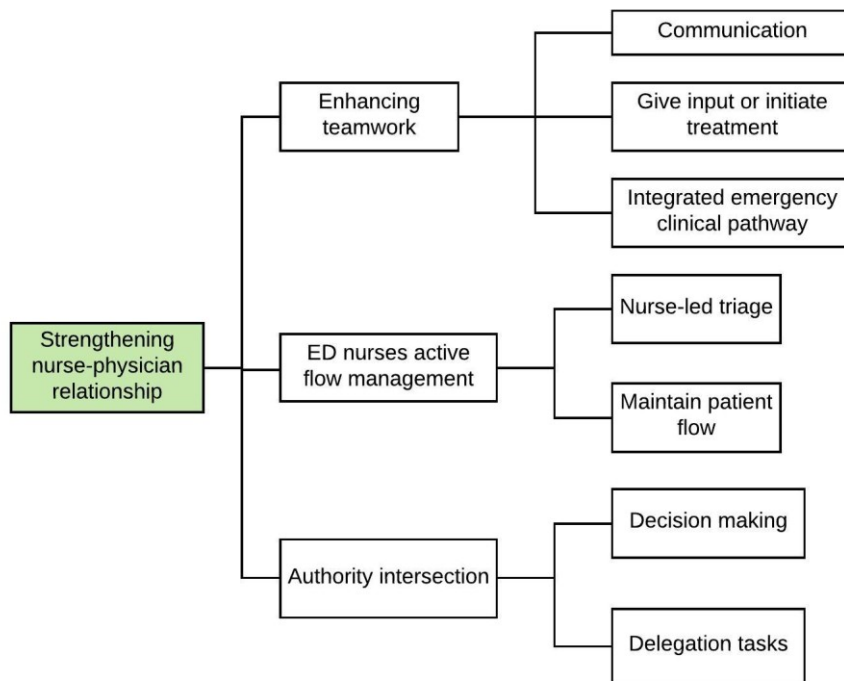


Figure 14. Strengthening the nurse-physician relationship

In the past, the ED used two levels of triage: primary and secondary. A nurse performed the primary triage, and generalists performed the secondary triage. In practice due to the two-part process the old triage system involved a delayed response time. Therefore, hospital managers applied nurse-led triage and erased secondary triage from January 2018. In preparing for the role, the managers in the study hospital chose eight experienced ED nurses to attend intensive triage training, and they have continued to evaluate the role and send more nurses for triage training. Current patient flow in the ED with nurse-led triage is illustrated from my field notes (see also Figure 15):

Patients who come to the ED will be triaged by a nurse. The triage nurse will decide the patient triage tag: resuscitation, red, yellow or green. If a patient is triaged as a resuscitation patient, which means he/she is in a life-threatening condition, then the triage nurse will leave his/her post for a while, take the patient to resuscitation room (which is right next to the triage room), push the code blue button to alarm the resuscitation team, and initiate the life-saving intervention. After the resuscitation team present to continue the treatment, the triage nurse goes back to the triage post. The triage nurse also initiates the necessary intervention for the red tag patient. If a patient is triaged as a yellow or green tag patient, the triage nurse will take the patient into the designated zone. The process of hand over in red, yellow, and green patient from the triage nurse to generalist and nurses per zone is compulsory. The generalist will further assess the patients and decide whether the patient needs a specialist consultation, should be referred, or admitted. (Field Notes, Triage Zone).

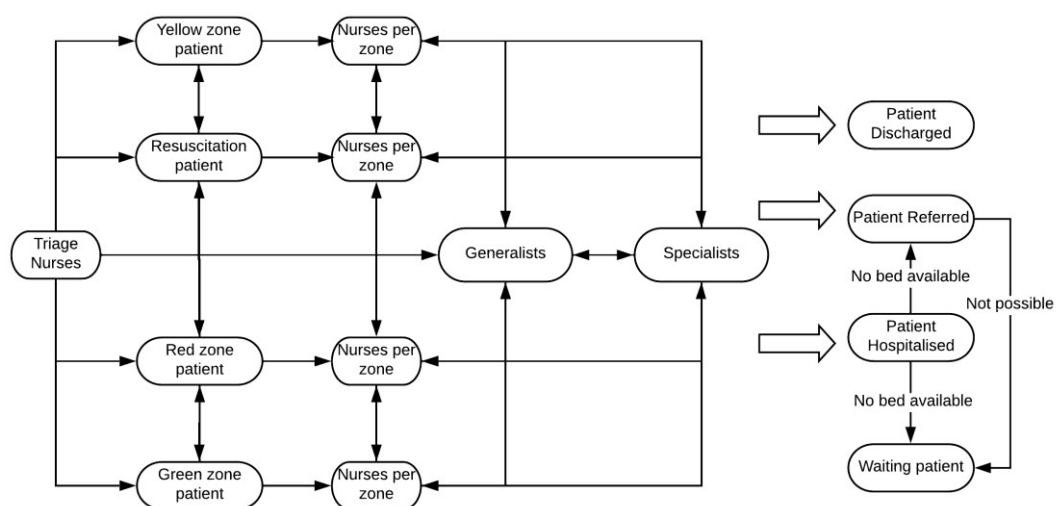


Figure 15. Patient flows in the emergency department*

*) The flow has been discussed by one of the emergency department managers

In the zones (Figure 15), the ED nurses are divided into four rotational teams, where each team usually consisted of 12 – 13 nurses. The team is made up of: (a) one team head, (b) one triage nurse, (c) four red zone nurses, and (d) six yellow zone nurses. However, due to the increasing number of non-urgent patients' visitations and 'waiting' patients in the ED, the

ED manager decided to further separate yellow zone nurses into: (e) nurses who handle incoming patients and (f) those who deal with waiting patients. The following quote described the necessity of the role separation in the yellow zone:

“We have an incoming and waiting patient system for nurses now. The system gives clearer coordination because we know which nurses handle which patient... during crowded hours, we have 12 incoming patients and 34 waiting patients, so a total of 46 patients in the yellow zone sometimes scale up to 52 patients. When there is only six of us in the yellow zone and no assigned nurse to handle incoming patients, then this will confuse and interfere the workflow because each of us already has a responsibility to the waiting patients” (Interview, May, Nurse).

However, the coordination of treatment programmes and the targets for waiting patients, for both nurses and physicians is not clearly set, especially for a patient who needs treatment from different sub-specialists. Consequently, nurses are burdened with overlapping instructions from physicians.

An integrated emergency clinical pathway is designed to allow nurses to work based on the standardised pathway. The aim of this idea is to facilitate patient flow rates and shorten waiting times. The pathway also serves as a communication tool for nurses and physicians when relating to a particular patient's case. Thus, both parties know what to expect next and collaborate accordingly. Unfortunately, the development of such a pathway was limited to stroke and ST-Elevation Myocardial Infarct (STEMI) patients. Moreover, there are three concerns regarding the implementation of the pathway: (1) the training method for nurses and physicians, (2) a reward system for involved parties, and (3) the cost of care in relation to the national insurance policy; concerns that are yet to be resolved. These three components should be included in designing the standardised pathway in order that such a pathway can be maintained and produce optimum outcomes.

“We have not formalised code STEMI and stroke into hospital standard operating procedure. The process takes time and needs to include all hospital divisions. We can formalise the document in the ED, but it may end up for the physician’s benefit only. We do not want this... because there are nurses also. We want to discuss all key points, including training methods, audit, and cost of care” (Interview, Hugh, Specialist).

In addition to the nurse-led triage and integrated emergency clinical pathway, there are some other factors that influence the interaction between the nurse and physician in the ED. Following sections will further discuss and unpack the links and interplay among these factors.

6.2.1 Realist Programme Theory (RPT) 2: Authority and Decision Making

The context-mechanism-outcome (CMO) analysis explains the interplay among factors under the ‘strengthening nurse-physician relationship’ category. The analysis configured a realist programme theory (RPT) 2 that focuses on mechanisms around authority and decision-making processes in the emergency department (ED) which affects the emergency nurses’ autonomy. Figure 16 illustrates the connection among factors using the configuration of context and mechanism that leads to immediate and long-term outcomes.

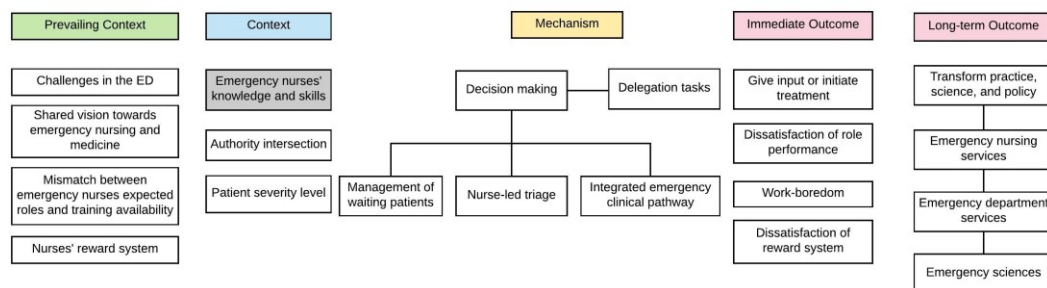


Figure 16. RPT 2: Authority and decision making

Current strategies used in the ED, including nurse-led triage and the integrated emergency clinical pathway, facilitate emergency nurses to have more autonomy to make patient management decisions.

“We change the triage system. We are no longer use primary triage [nurse-based triage] and secondary triage [physician-based triage] anymore to reduce waiting time. We only assign a triage nurse in the triage room. Triage nurses can decide the patient’s triage tag without physician confirmation. So, we expect them to have high sensitivity and substantial clinical experience to perform the role” (Interview, Hector, Manager).

Healthcare professionals, who work in the ED, are bound by a different layer of regulation from those who work elsewhere. Their professional policy, hospital regulations, and other related policies are uniquely designed to take account of their challenging work environment. Under the local policy, the ED gives the specially trained nurses the authority to decide the patient’s triage tag so resolving many waiting times issues.

The availability of generalist, specialist residents, and (Emergency Medical Management) EMMAN specialists brings about a more complex intersection of authority in the ED. In Indonesian legal regulations, almost all treatments in healthcare facilities are stated as ‘belonging to’ and therefore the responsibility of the medical sector. Therefore, physicians have full authority, as well as responsibility, for deciding the patient’s treatment. This situation is even more evident in the ED setting where advanced life-saving interventions are recognised as the work / responsibility of the authority holder. Therefore, most of the emergency nurses’ work in the ED is considered as a delegated task. Emergency nurses take delegated tasks from three authority holders: (1) generalist, (2) specialist residents, and (3) EMMAN specialists. Such circumstances mean that non-triage ED nurses do not have control, authority or forma; acknowledgement related to the work they have done, including the reward for such work. Nurses work within a very limited scope of practice. Although they usually try to initiate some treatments, they are often obliged to

wait for the physician's validation to actually perform most of treatments or therapy.

Many of physicians in this study expressed that both physicians and nurses can “*support each other in treating the patient*” (Interview, Hugh, Specialist). They expect nurses to “*give input or initiate treatment*” (Interview, Rose, Generalist) whenever necessary. One of the factors that influence nurse-physician collaboration is the level of that nurses' knowledge and skills as there are different levels of knowledge and skills among emergency nurses (Figure 16), which affect how they communicate and interact with physicians. Having relevant knowledge and skills is necessary when nurses wish to give input to physicians so that the discussion runs both ways.

“I want to update my knowledge always. We have to know the related knowledge if we want to collaborate with the physicians. When we give input to the physician, we should possess the relevant knowledge so we can understand and take the discussion further when necessary, and we also engaged during the discussion. How can we understand if we do not possess the knowledge?” (Interview, Yuki, Nurse).

It is worth noting that the study found interactions between RPT 1 in terms of context-mechanism-outcome (CMO) 1 and RPT 2 (CMO 2). The interaction creates a ripple effect, as illustrated in Figure 17.

The outcome from the knowledge brokering in CMO 1, which is adequate emergency nurses' knowledge and skills, becomes the context in the reconstruction of emergency nurses' role-relationships in CMO 2. This condition means that the failure or success in knowledge brokering will affect nurse-physician relationships. As a result, such a condition triggers a ripple effect on the whole system, including prevailing contexts, such as waiting patients and delayed treatments. Meanwhile, at a certain point in time, the outcome of role-relationships (CMO 2) becomes the context in knowledge brokering process (CMO 1). Conducive role-relationships will activate certain

mechanisms within the knowledge brokering process, resulting in producing more expected outcomes.

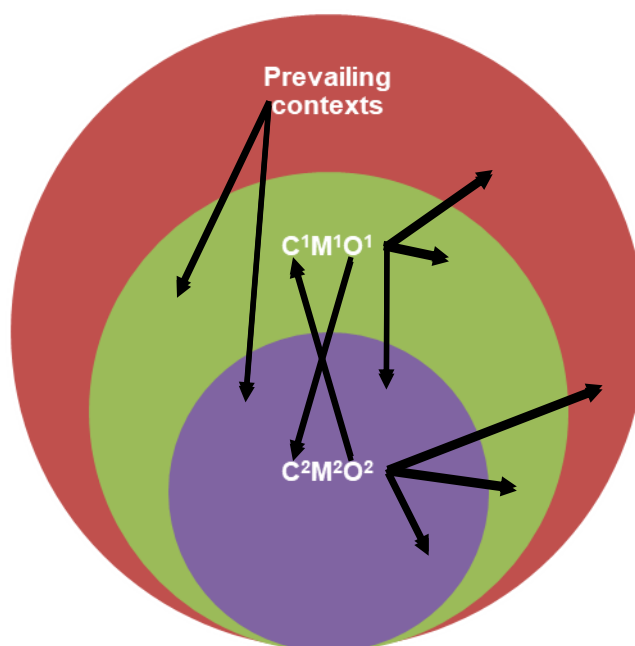


Figure 17. Ripple effect of CMO

The interactions show the complexity of emergency nurses' role shaping, where all components are intertwined and have dissimilar effects that can influence the whole system.

According to Freidson (1986), specialised skills and competencies, especially gained from formal education or university-based learning are the source of authority for professionals. However, possessing all the required competencies to perform certain roles does not guarantee emergency nurses to have the clinical authority to do so. The Indonesian nursing act has authorised nurses to perform lifesaving, and medical procedures in a life-threatening situation when there is no physician available. However, there is a limit to all nurses' authority, especially in the major ED featured in this study in which generalists, specialist residents, and Emergency Medical Management (EMMAN) specialists are always available.

Despite there being a noticeable change in the nurse-physician relationship in the ED in this study, the traditional view of the relationship in which nurses lack authority is still dominant; nurses are still seen as being obliged to deal with delegated tasks. Another study from Indonesia also reflected the similar views ‘that physicians hold the primary authority to decide patient care management in the ED’ (Suryanto et al., 2016). The central process to strengthen the nurse-physician relationship in the ED under my study involved not only improving the knowledge and skill of the nurses but also shared decision making. According to Meleis (1975), transitions in roles inevitably also require a change in role relationships. Changes in role relationships, particularly between emergency nurses and physicians, will require adjustment in (a) authority, (b) autonomy, (c) responsibilities, and (d) other related dimensions. Without a change in abilities, knowledge, and role relationships, emergency nurses are at a high risk of experiencing *role insufficiency* during transitions.

“We still focus on bio aspects of the patient and less concern on psycho-socio-spiritual of the patient. This situation is mainly because of our workload, which mostly delegated tasks from physicians. So, we have not performed all our expected roles properly” (Interview, Edina, Nurse).

“I think non-patient care related roles have not performed well yet. Emergency nurses should strengthen these roles, including management of service roles” (Interview, Henry, Manager).

The quotations above demonstrate an evident dissatisfaction with role performance that has emerged as a result of *role insufficiency*. Such responses are *progress indicators* of emergency nurses’ role transition suggesting vulnerability or movement in an unhealthy direction. The combination of being overwhelmed with delegated tasks coming from physicians, staff shortages leading to overwork and stress (as well as the potential to make mistakes, and ED overcrowding means nurses cannot optimally deliver the necessary emergency nursing care. Such a challenging

situation will inevitably cause some nurses to feel dissatisfied about their role performance. Similar findings were also shown by an extensive study in 12 countries in Europe which highlighted that 'lacking authority' is a condition which influences the quality of patient care provided, as well as the main source of job dissatisfaction and turnover among nurses (Aiken et al., 2011). Moreover, gaining authority is important to improve nurses' roles, their professional image, and quality of the healthcare services being provided (Sepasi et al., 2017). Another study in Indonesia also showed a lack of authority among emergency department nurses and their need to secure legitimate power since such power is important for positioning the emergency nurses' profession in the healthcare system (Trisyani and Windsor, 2019).

Participants were aware that in true emergency cases, life-saving intervention, i.e., biological or physical aspects, are the priority. However, in the ED, there are more waiting and non-urgent patients than true emergency patients, who need further care. This condition perhaps should become the subject of one of the professional organisations' evaluation exercises focused on about the qualification of nurses who work in a major ED; particularly those who deal with waiting patients, as has been discussed in chapter 5 and also above. If ED nurses need more competencies to cover patients who wait in the ED for more than 24 – 72 hours then there should be support from professional organisations and hospital managers to provide the necessary guidelines, regulations, and training. Therefore, the mismatch between expected roles in the major ED and the training available can be minimised.

Knowledge and skill insufficiency to perform all expected roles, and lack of authority means the professional work of nurses is often not seen. Therefore, this condition may be perceived as the cause of a lack of recognition from physicians, other healthcare professionals, and the community at large regarding the role and the impact that nurses could bring to the emergency department.

6.2.2 Underlying Mechanism 2: Reconstructing Emergency Nurses' Role-relationships

Identification of demi-regularities from strengthening the nurse-physician relationship showed the pattern in which there are different types of emergency nurses' interventions in each ED zone (Table 10).

Table 10. Intervention types

Intervention Types	Red Zone (Urgent)	Yellow Zone (Non-urgent)	Triage Room
Autonomous	+	+	+
Delegated	+	+	
Mandated	+		

There are two types of emergency nurses' interventions: (1) autonomous (authority belongs to nurses) and (b) collaborative intervention (authority belongs to physician). Collaborative intervention is further divided into 'delegated' and 'mandated' interventions. The difference between delegated and mandated interventions is explained by the following document:

“Collaborative practice of nurses includes two types of intervention which are delegated and mandated. The difference between delegated and mandated intervention lies in the requirement for a physician’s supervision. Delegated tasks mean that nurses can perform interventions without supervision from a physician. Meanwhile, mandated interventions require supervision from a physician” (Document, Indonesian Nursing Act number 38 the year 2014).

However, during the observation, I noticed that mandated interventions, which mean the intervention performed by nurses require supervision from a physician, such as femoral catheter line insertion are rarely conducted in practice. Mostly specialists will perform such interventions directly. Therefore, the nurse-physician interactions for patient management only involve delegated types of intervention.

It is necessary to differentiate nurses' autonomous interventions between the Indonesian context and other countries that have created the category and / or appointed advanced nurse practitioners. In the ED under study, nurses' autonomous interventions did not include prescribing drugs, referring patients, ordering diagnostic tests, or other advanced interventions. The interventions were limited to providing basic needs, emergency assessment, delivering emergency nursing care plan, monitoring, evaluation, head tilt-chin lift, and jaw thrust.

Meanwhile, interventions such as performing an electrocardiogram (ECG), inserting a nasogastric tube (NGT), peripheral intravenous (IV) and urinal catheterisation, and taking blood samples were included in delegated tasks. Only in the triage zone could emergency nurses autonomously decide the patients' triage tag. These phenomena illustrate the current circumstances of the nurse-physician relationship, which lead to a further consideration. As the transition of emergency nurses' roles progresses the challenge of how that relationship can be strengthened when there are arrays of authority involved is waiting to be resolved. As discussed below, through my abduction and retroduction process of analysis, I concluded that reconstruction of emergency nurses' role-relationships is the key causal mechanism informing the category of 'strengthening the nurse-physician relationship'.

6.2.2.1 Reconstruction of Emergency Nurses' Role-relationships

The role-set embraces the concept of social structure in which each social status included is an array of roles (Merton, 1957). This concept means that the role-set of emergency nurses is a complement of role-relationships in which they are involved because they occupy a particular social status (Merton, 1957). The author highlights that role-set concept is different from what is described as 'multiple roles', i.e., the statuses of a wife/husband, mother/father, professor, and community leader. Instead, within this study, role-set views the status of emergency nurse as entailing not only the role of an emergency nurse, but also an array of other roles that relating an

emergency nurse such as to other emergency nurses, physicians, hospital managers, and professional organisations (Figure 18).

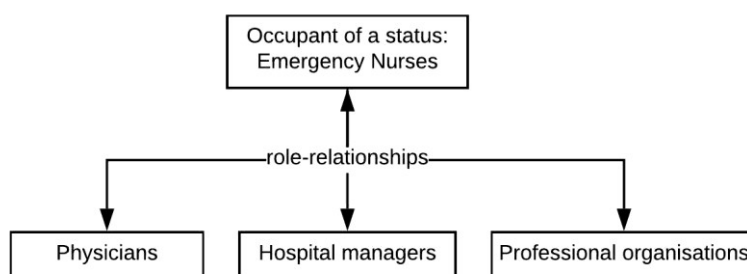


Figure 18. Role-set of emergency nurses

Consequently, the role-set concept focuses on elements of social structure, such as social status, roles, and groups, and how emergency nurses deal with the structures of relationships in which they are involved. Therefore role-set is unlike the multiple roles concept that addresses how emergency nurses cope with many, and sometimes conflicting, expectations imposed upon them (Merton, 1957).

Emergency nurses as the occupant of status have role-relationships not only with physicians but also with hospital managers and professional organisations. Physicians, hospital managers, and professional organisations, as the members of a role-set, tend to hold social positions which are different from emergency nurses. According to Merton (1957), different social positions or status-set lead to different interests, values, and expectations. Therefore, even though the quality of interaction between the emergency nurse and physician is more intense than the rest of role-set members, the effort to strengthen nurse-physician relationships should take into consideration of all the *reference groups* in the emergency nurses' role-relationships. *Reference groups* such as professional organisations, hospital managers, and physicians, therefore, not only assist emergency nurses in transitioning their knowledge and skills but also reconstruct emergency nurses' role-relationships.

Merton's work has been used extensively in various fields for different purposes, such as disentangling conflicts of status-set and role-set (Evan and Levin, 1966), identifying effectiveness of managers' role-set (Tsui, 1984), and developing coping strategies towards transitions of children's chronic illness (Major, 2003).

There are six social mechanisms that articulate role-set (Merton, 1957), which explain the phenomena that emerged from my study, as follows: (1) relative importance of various statuses, (2) differences of power of those in the role-set, (3) insulation of role-activities from observability by members of the role-set, (4) observability of conflicting demands by members, (5) mutual social support among status-occupants, and (6) abridging the role-set. According to Merton (1957), inadequate articulation of role-relationships, including role expectations, may trigger one or more social mechanisms to come into play.

In the section below, Merton's social mechanisms of role-set will be further discussed by sampling the transition conditions that emerged from my data. I will use *italic words* to highlight concepts derived both from Meleis transition theory and Merton.

6.2.2.2 Transition condition

The pattern of the nurse-physician relationship according to the emergency nurses' level of authority can be divided into four areas (Figure 19). In relation to Meleis transition theory, the middle-range theory (MRT) of this study, *role clarification* should also include status-set, role-set, and expectations of emergency nurses in all four working zones.

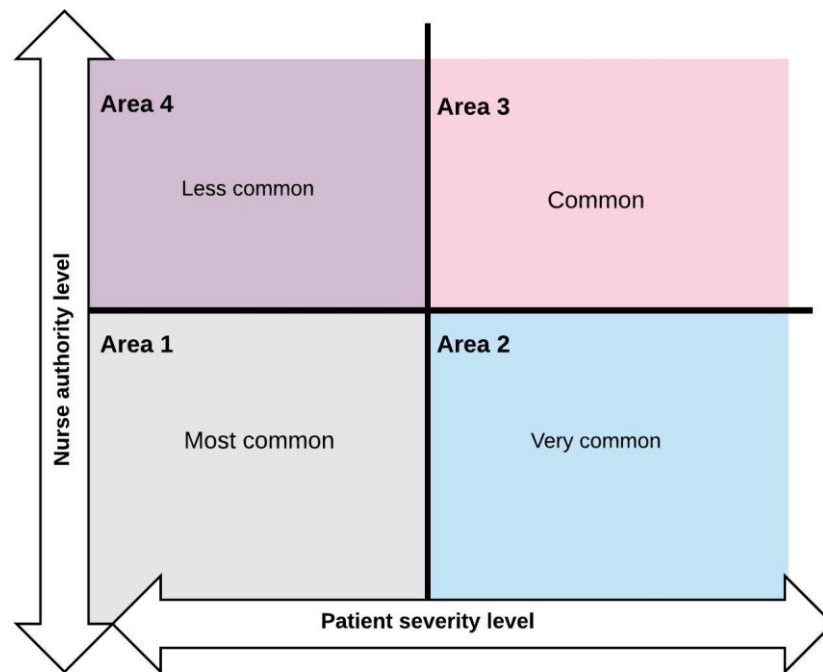


Figure 19. Pattern of nurse-physician relationships

Area 1 of the nurse-physician collaborative practice is the most common types of interaction in the ED, where emergency nurses work with a low level of authority towards a low level of patient severity (non-urgent case). These types of collaborative practice, of which nurses perform delegated tasks from physicians mostly occur in the yellow zone, for both new and waiting patients, and also the green zone. The characteristics of nurses in this zone are mainly those of fresh recruits or low-level clinical nurses. They still have limited knowledge and experience towards emergency cases.

Area 2 of the nurse-physician relationship is a very common area of collaborative practice, where nurses work with limited authority towards a high level of patient severity (a true emergency case); a situation which usually occurs when treating a red or resuscitation patient. Nurses will initiate the Airway-Breathing-Circulation (ABC) intervention and give input towards the treatment since more experienced nurses are posted in this zone.

However, decisions related to patient treatment still clearly belong to the physician.

The phenomena that occurred in these first two areas of my study demonstrate the *relative importance of various statuses* mechanism of Merton's role-set. The status of physicians who have full authority towards patients' treatment in the ED shows that social structures tend to designate physicians as having greater importance than emergency nurses. This tendency is shown across national and hospital policy documents, in which the physician is the leader and decision maker for patients across different levels of severity. Trisyani and Windsor (2019) highlighted that lacking authority among nurses is indicative of an interplay between powers, i.e., professional autonomy or regulation and knowledge. The study explored that inequalities in formal education lead to inequitable authority in practice (Trisyani and Windsor, 2019). The study was in line with the situation of emergency nurses in the ED in my study. Nurse participants expressed that they felt a lack of confidence to collaborate with physicians because they thought they did not have enough knowledge due to limited formal education and only limited structured work-based learning.

However, physicians who hold primary significance in the ED, according to Merton's role-set, may be better able to withstand the demands for conformity with differing expectations of those comprising their role-set such as hospital managers. If emergency nurses demand more authority in the ED, then they should be able to fulfil different expectations from the members of their role-set, since the greater the power, the greater the responsibility. Meanwhile, the current situation of the nursing workforce in the ED is still left with insufficient knowledge and skill because of a lack of standardised and structured informal learning and limited formal learning. At this point, demanding more responsibility means that the system across different levels should be prepared to encounter all the consequences, including education, training preparation, and legal aspects. Such change is a professionalisation

process to obtain the *integrative identity* of emergency nurses' profession which, according to Meleis et al. (2000) should become one of the outcome indicators of role transitions.

More importantly, support from hospital managers and professional organisations, as *reference groups* of emergency nurses' role-set, is important for emergency nurses to perform their expected roles. Since attached to the new roles are not only new knowledge and skills but also authority and liability, as well as the recognition for performing such interventions. Hunt and Wainwright (1994) highlighted that during transitions of nurses' roles in the UK, the new roles included more than enhancing specialist knowledge and skills. It also involved autonomy and authority. These components, therefore, should be cleared by *reference groups* during *role clarification*.

Area 3, where nurses work with full authority in the ED, is only seen in the triage zone. The implementation of nurse-led triage allows those triage nurses to decide the patient's level of severity. Nurses who are assigned to the triage zone are specially trained nurses and have more experience and higher level of clinical knowledge and skills than nurses in other areas and / or those nurses who were not appointed to the ED. Meanwhile, in area 4 nurses are expected to have a high-level authority allowing them to deliver care for non-urgent patients: an exception in the ED through the initiation of an integrated emergency clinical pathway.

"I think if we can properly implement STEMI [ST-elevation myocardial infarct] and stroke code and integrate the code into the hospital system, nurses can work independently with these two cases using the codes" (Interview, Hugh, Specialist).

Although, the pathway initially aims to address STEMI (ST-Elevation Myocardial Infarct) and stroke, it is also potential to be used for other minor

stream cases. The pathway will facilitate nurses to decide and treat a patient based on a standardised algorithm.

The phenomena occurring in areas 3, and 4 shows *differences of power of those in the role-set* mechanism. This mechanism works through stabilisation of the role-set by distributing power and authority (Merton, 1957). Power in this relationship means the ability to enforce strategies into actions, such as nurse-led triage and integrated emergency clinical pathways, even against the will of the members of the role-set taking part in that action (Merton, 1957). Meanwhile, 'authority' means legitimised power within the organisation or institution (Merton, 1957). As a result of social stratification, the members of the role-set, including emergency nurses as the occupant of status, do not have equal power to determine emergency nurses' practice in the ED.

Autonomous practice has been the goal of emergency nurses and related professional organisations since emergency nurses have been doing most emergency interventions for years, yet the authority belongs to physicians, i.e., delegated tasks. The more autonomous practice of emergency nurses in the ED in this study was only possible when hospital managers distributed power and authority by injecting ideas to implement nurse-led triage and initiated integrated emergency clinical pathways as a response to ED issues, such as non-urgent self-referral patients and delayed response times. These phenomena also show that there is a shift in the importance level of emergency nurses' status when hospital managers, who in this case are considered as powerful members of emergency nurses' role-set, focus more attention on the potential of emergency nurses to address ED issues through shared roles and responsibilities.

However, not all emergency nurses as the occupant of status have the same view about having new roles. Emergency nurses expressed their concerns about how well they will be trained for the new roles, their new responsibility,

and asked if there would be any compensation for their new roles in the form of a reward system. *Observability of conflicting demands by members of a role-set*, in this case, occurred among the occupants of a status: emergency nurses. At this point, *insulation of role-activities from observability by members of the role-set* mechanism suggests the use of an integrated clinical emergency pathway as a tool to control role-behaviour of emergency nurses as the occupants of a status. The pathway ensures role-performances of emergency nurses and physicians are observable in the ED system in order to ensure high-quality service and patient safety. The optimum method of control and compensation will simultaneously allow accountability and substantial autonomy to be accepted comfortably by involved parties, rather than forced and insecure consent with the distribution of power (Merton, 1957).

Under circumstances in which the potentially conflicting demands came from among status-occupants: emergency nurses, the process of *mutual support among status occupants* may come from the members of the role-set instead. In the ED in this study to some extent, the support from physicians, hospital managers, and professional organisations regarding emergency nursing specialists and autonomous practice facilitated a structural reaction to the issue of managing the conflicting demands; although there are more rooms for improvement regarding what can and should be done to optimise the support.

According to Meleis et al. (2000), *fluid integrative identities* are one of the *outcome indicators* of role transitions. Such an identity of the person involved in transitions represents a healthy process of transitions. Identity is defined by Davis (1966, p.67) as person's "*position or status within the social structure applicable to the given situation and establishes his rights and obligations with reference to others holding positions within the same structure*". Unfortunately, within the literature, identity in the context of professional or profession, in my case relating to emergency nurses'

profession, is a relatively neglected issue in the process of transitions (Currie and White, 2012). Therefore, the authors emphasised the need to give more attention to professional identity, since that identity will be reframed through macro-level and micro-level interactions during role transitions. Reconstruction of EN role-relationships is a form of *role clarification* that can minimise intra- and inter-professional tensions as well as status-set through negotiating professional relationships. Such clarification will facilitate reformulation of emergency nurses' professional identity as the transition processes near completion.

Moreover, social and organisational structures have the power to mitigate conflicts that emerge during transitions (Merton, 1967). The author suggests that the more that conflicts between the obligations of multiple statuses happen, the more regulations will evolve to govern those situations. In my study, this means that as the transition of emergency nurses' roles progresses more conflicts may emerge; especially 'authority conflict' with medical colleagues. Moreover, the transition may also affect obligations and working patterns in all emergency department (ED) zones. Hospital and ED managers need to prepare mitigation plans, which include necessary regulations to address potential conflicts that emerge during transitions. Such plans may expand to the collaborative work between the institution with wider organisations, such as related professional organisations of emergency nurses and physicians.

6.2.2.3 Refined realist programme theory 2

Based on the retroduction process, which have been discussed in the previous sections, the realist programme theory (RPT) 2 was refined from focusing on authority and decision making between nurse and physician to refocus on the reconstruction of emergency nurses' role-relationships (Figure 20).

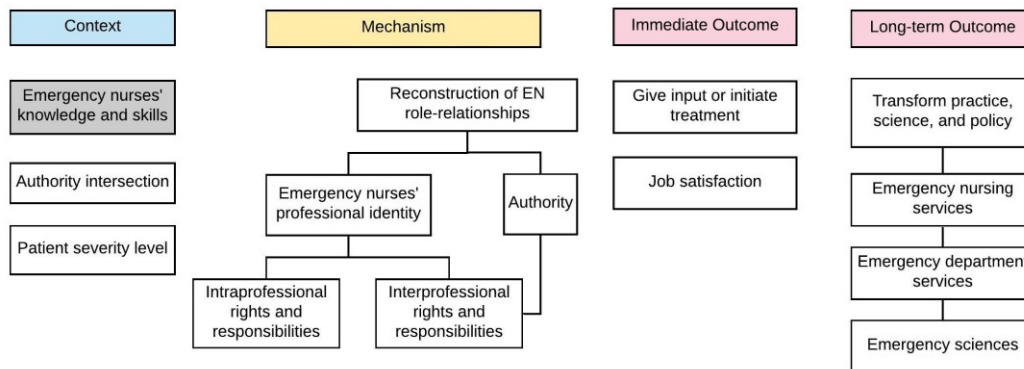


Figure 20. Refined RPT 2: Reconstruction of emergency nurses' role-relationships

Simultaneously, the refined RPT 2, resulting from the analytical process of retroduction in this chapter, is expressed succinctly in the following statement:

***"If** emergency nurses' knowledge and skills are adequate, under circumstances of authority intersections among professionals and different patient severity level (context),
then this will support reconstruction process of professional relationship (strategy) resulting in more input from nurses and job satisfaction (immediate outcome), which improves the chance and ability to transform practice, science, and policy in the ED (long-term outcome).
Because reconstruction of the EN role-relationships facilitates reformulation of emergency nurses' professional identity and authority (mechanism).*

6.3 Summary

As the transition of emergency nurses' roles progresses, there are many dimensions of roles that need to transform. The transformation should not only focus on the transitions of emergency nurses' knowledge and skills by

changing education and training systems but also the whole dimension of professional identity, including authority, rights, and responsibilities.

This chapter emphasised the importance of the reconstruction of emergency nurses' role-relationships. The mechanism allows a professionalisation process towards the dimension of rights, responsibilities, reward, and recognition of the role. Such a process will minimise conflict relating to levels of authority by increasing mutual understanding of role-relationships.

Chapter 7: Discussion

Emergency Nurses' Role Transition: What Works (or not), for Whom, and under What Circumstances?

7.1 Introduction

The overall aim of this study was to gain an understanding of contributory factors that shape the emergency nurses' role in a major Indonesian emergency department. My four main research questions were:

1. What are the individual, organisational, and social contexts that influence the emergency nurses' role?
2. What mechanisms occur (or not) around the role shaping?
3. What outcomes are produced from the process?
4. How do the contexts and mechanisms interplay with each other in producing the outcomes?

It was evident in my data, which have been presented in the three previous findings chapters, that the role of emergency nurses in the emergency department in this study is in transition. However, it should be highlighted that the transition process of the role is still considered at an early phase.

This chapter aims to discuss the transition process of the emergency nurses' role in my study, in its Indonesian context, in comparison to the process internationally. Findings from chapters 4, 5, and 6 as well as two realist programme theories (RPTs) in the form of context-mechanism-outcome (CMO) of emergency nurses' role transition configured from this study, are compared with results and the CMO from the realist-informed review (RIR).

Transition theory, the middle-range theory (MRT) grounded in the data of this study, will be used to discuss both findings in-depth.

This chapter starts by summarising the CMO configured from the study and realist-informed review (RIR). The contributions of each article and document included in the RIR to the CMO configurations are also presented. Then, the chapter presents five theoretical frameworks reported in the RIR and how these frameworks did, or did not, relate to transition theory. The chapter continues with a discussion around the CMO interactions found from my empirical study and RIR.

7.2 Overview of the CMO from the Study and RIR

The context-mechanism-outcome (CMO) configured from the study highlights two mechanisms that shape the emergency nurses' role: (1) knowledge brokering and (2) reconstruction of emergency nurses' role-relationships. There is no clear direction identified in the data regarding which type of emergency nurses' role the transition occurs in, 'advanced' or 'extended', in the Indonesian emergency department being studied. However, there is some consensus in expected outcomes from the two processes, including: (a) adequate emergency nurses' knowledge and skills, (b) nurses give more input or initiate treatment, (c) job satisfaction, and (d) transformation of emergency practice, science, and policy (Table 11).

Table 11. CMO of the study

No.	Context	Mechanism	Immediate Outcome	Long-term Outcome
CMO 1	Individual and collective capacity to broker	Knowledge brokering, a catalyst for knowledge translation into practice, bridges policy informing, and supports work-based learning process	Emergency nurses' adequate knowledge and skills	Transform emergency nursing services Transform emergency department services Transform emergency nursing science
	Nurses' scope of practice in a major emergency department			
	Role-relationships			
	Certification system for work-based learning process			
	Partnership in emergency nursing education and training			
	Regulation and guideline			
	Career ladder and reward system for conducting educational roles in practice			
CMO 2	Emergency nurses' knowledge and skills	Reconstruction of emergency nurses' role-relationships, which facilitates reformulation of emergency nurses' professional identity and authority	Give input or initiate treatment	
	Authority intersection		Job satisfaction	
	Patient severity level			

The study emphasises that the reconstruction of emergency nurses' role-relationships, as the mechanism in CMO 2, facilitates reformulation of emergency nurses' professional identity and authority. The mechanism is always activated in a conducive context. One of the contexts in CMO 2 is the emergency nurses' knowledge and skills, which is the outcome of CMO 1. This circumstance indicates that if the knowledge brokering process in CMO 1 is interrupted then adequate emergency nurses' knowledge and skills will not be achieved. This condition leads to the non-activation of the reconstruction process of emergency nurses' role-relationships because one of the contexts, which is emergency nurses' knowledge and skills, is not conducive (Table 11 highlighted in grey).

Furthermore, it should be highlighted that once activated or constructed, emergency nurses' role-relationships become the context in the CMO 1, in which if not conducive will in return alter the knowledge brokering process. These CMO interactions create ripple effects towards the whole process of emergency nurses' role transition. It is worth noting that since the transition process of the emergency nurses' role in the emergency department of this study is still considered to be in its early phase, outcomes configured from CMO interactions are participants' expectations of the process. When the study was conducted, those outcomes had not yet been realised.

In comparison, the CMO configured from the realist-informed review (RIR) highlights that the transition is moving towards the advanced practice nurses' role. The only underlying mechanism found from RIR was 'knowledge brokering'. The knowledge brokering occurs simultaneously between individual and collective types of brokering. Moreover, CMO configurations of the RIR reflect the transition process of emergency nurses' role from the earlier to later phases in more detail, identifying key actors and unearthing new mechanisms. Furthermore, the results from RIR revealed five contexts of emergency nurses' role transition, including a high quality and coherent policy (C1), organisational support and manager-clinical relations (C2),

quality of intra- and interprofessional collaboration (C3), accredited and standardised education (C4), and time, financial, and personal factors (C5) (Table 12). The realist analysis of included studies and documents in RIR suggests that during the emergency nurses' role transition, the process of knowledge brokering cycles in a loop not only to develop but also to make these five contexts receptive for change. Therefore, more mechanisms can be activated to push forward the transition process.

Lastly, the RIR showed nine potential outcomes emerging from the role transition, as follows: changes in related policy and system (O1), role mastery (O2), well-being of emergency nurses (O3), well-being of role-relationships (O4), improvement in the quality of emergency department services (O5), improvement in the quality of patient's clinical outcome (O6), cost-effectiveness (O7), improvement in educational, evidence-based, and research activities in practice (O8), and professionalism (O9).

Table 12. CMO of Realist-Informed Review (RIR)

Context	Key Actors	Mechanism	Outcome
C1: High quality and coherent policy	Individual brokering:		O1: Changes in related policy and system O2: Role mastery
	KA1: Front-runner	MKA1: Adopts and implements programmes or innovations	
	KA2: Clinical leader	MKA2.1: Influences and inspires multi-professional peers MKA2.2: Participates in transforming policy and practice	
C2: Organisational support and manager-clinical relations	KA3: Upper leader	MKA3.1: Promotes the role to wider contexts MKA3.2: Includes important parties MKA3.3: Develops relevant policies MKA3.4: Bridges interprofessional working	O3: Well-being of emergency nurses
		MKA4.1: Improves emergency nurses' competency MKA4.2: Facilitates knowledge translation into practice	O4: Well-being of role-relationships
C3: Quality of intra- and interprofessional collaboration	Collective brokering:		O5: Improvement in the quality of emergency department's service O6: Improvement in the quality of patients' clinical outcomes O7: Cost-effectiveness
	KA5: Emergency nurse practitioner (NP) group brokering	MKA5.1: Exhibits the role profile to others in nonthreatening ways MKA5.2: Influences and inspires others MKA5.3: Develops clinical practice guidelines MKA5.4: Directs the practice of emergency nurse practitioners MKA5.5: Shares knowledge and learning processes with others	
C4: Accredited and standardised education	KA6: Institutional brokering	MKA6.1: Involves individuals, groups, and other institutions MKA6.2: Facilitates multi-professional collaboration and participation in decision making MKA6.3: Redistributes resources and support	O8: Improvement in educational, evidence-based, and research activities in practice O9: Professionalism
C5: Time. Financial, and personal factors	KA7: Emergency nurses' professional organisation brokering	MKA7.1: Builds wider partnerships across institutional and governmental bodies MKA7.2: Builds relationships with professional organisations of physicians MKA7.3: Sets future directions and initiates changes of emergency nurses MKA7.4: Develops policies, regulation, and systems	
		M8: Holistic approach of nurse practitioner	

It is worth considering that some outcomes such as changes in related policy and systems should be obtained first (at least some part of it), since such outcomes become the context of a high quality and coherent policy (C1) which is expected to activate more mechanisms. Therefore, the CMO configurations from RIR further categorised the outcomes into: (a) immediate, (b) intermediate, and (c) long-term outcomes; however, in practice their appearance may not come in sequence. The contribution of included studies and documents in RIR to CMO configurations is displayed in [Appendix 9](#).

The next sections further break down in detail the context-mechanism-outcome (CMO) of the study and RIR. The discussion is a part of the analytical process to continue gaining understanding of the causal explanations based on realist logic of thinking. Therefore, this chapter also demonstrates the process of abduction and retroduction.

Theoretical frameworks found in the realist-informed review (RIR) are presented first. Then, these frameworks are compared and contrasted with transition theory, the middle-range theory grounded in the data of this study, to understand whether or not they are linked and how they are linked. The remaining sections then continue to break down the discussion in order to address the CMO of the study and RIR in greater detail. The concepts drawn from transition theory are written in *italic* throughout this chapter.

7.3 Transition Theory and Theoretical Framework

In the realist-informed review (RIR), only five studies' authors proposed theoretical frameworks that related to the process of role transition. The five frameworks are: (1) implementation framework, (2) sustainability of innovation framework, (3) four-phase practice development model, (4) interprofessional theoretical framework, and (5) receptive contexts for change.

7.3.1 Implementation Framework

The implementation framework was developed by Fry and Rogers (2009) to support the development of the emergency nurse practitioners' role. The two main strategies in the implementation framework are: (1) communication and (2) consultation. These two strategies were used to optimise the participation and involvement of emergency nurses, physicians, pharmacists, and radiologists in the role transition of emergency nurses. Issues involved in this transition include: (a) defining the scope of practice, (b) developing appropriate education and training programmes, (c) conducting supervision, and (d) evaluating the role. The authors conducted regular meetings with related departments to integrate transitional emergency nurse practitioners into emergency services, as well as showing how the role can sustain 'access' and 'flow' in the emergency department.

In transition theory, strategies used in the implementation framework are related to the inclusion process of *reference groups* to improve their *engagement* in the role transition. *Reference groups* and their *engagement* are central concepts in transition theory. Nurses, physicians, pharmacists, and radiologists are examples of *reference groups* in the role transition of emergency nurse practitioner. Similarly, *communication* and *interactions* are also two main strategies in transition theory oriented towards improving *reference groups' engagement* during transition. According to Meleis (1975) the main goal of interactions among *reference groups* is to create mutual understanding. This understanding provides a conducive environment for the transition, resulting in the establishment of the necessary support sources and strategies to move the process forward.

Senior emergency department managers and senior emergency physicians were among the *reference groups* that were involved in evaluating the emergency nurses' role. The assessment and feedback mechanisms of the emergency nurse practitioner's role used in the implementation framework were comprised of: (1) peer audit of documentation, (2) surveys of work

performance, and (3) a review of investigations, referrals, and managed patient groups.

In conclusion, the implementation framework breaks down potential strategies that can be used to include important parties in the process of development, implementation, and evaluation of the emergency nurse practitioners' role. The framework specifies the process and its components for the emergency nurse practitioners' role, which are not specified in transition theory.

7.3.2 Sustainability of Innovation Framework

The sustainability of innovation framework was used by Fox et al. (2018) in their study to provide specific indicators to measure which factors do not meet the requirement of supporting the sustainable service of emergency nurse practitioners. Their study found that the support received from the organisation for the integration of an emergency nurse practitioner service in the emergency department was still limited. As a consequence, such a service was underused because of a lack of understanding of its potential contribution to the emergency department service.

The framework was reviewed in the researchers' previous study conducted in 2015 (Fox et al., 2015). In that review it was highlighted that there are five factors which influence the sustainability of a programme's innovation, these factors being: (1) political, (2) organisational, (3) financial, (4) workforce, and (5) innovative. These factors are interrelated and determine the continuity of any health service innovation, including the emergency nurse practitioner service.

The authors further explained that political factors focus on how policies related to an innovation: (a) link to practice, (b) align with national policy, (c) are flexible, and (d) increase practitioner involvement. Meanwhile,

'organisational factors' informed the exploration of how organisations adopt innovation through their communication and networking strategies. Moreover, financial factors in terms of: (a) resources, (b) funding, (c) strategies to carry out planning and evaluation for the innovation should be carefully assessed. Lack of continuity in innovation was also influenced by workforce factors, such as how staff perceive the innovation; as well as how they respond to the support and benefit that they receive. Lastly, innovation-linked specific factors such as: (1) support, (2) barriers, (3) safety, and (4) the quality of the innovation, should be regularly examined throughout the process of implementation. Fox et al. (2015) suggested a specific exploration needs to be addressed in each of the factors to ensure the sustainability of an innovation.

The five factors in the 'sustainability of innovation' framework relate to the concept of *transition conditions* in transitions theory, which include *personal*, *community*, and *society's conditions*. These conditions are considered as the context where the transition occurs and serve either as disabling or enabling factors of the role transition process (Schumacher and Meleis, 1994). The authors underline that in transition theory, subjective appraisal of *meanings* and *expectations* towards transition, *level of knowledge and skill*, *environment*, *level of planning*, and *emotional and physical well-being* are all important contexts in the role transition. Furthermore, Schumacher and Meleis (1994) also emphasised the importance of having an assessment framework that allows a comprehensive exploration of these various contexts across system levels in order to understand the transition process.

Both the 'sustainability of innovation' framework and 'transition theory' emphasise the importance of understanding contexts where the transitions are embedded as influencing factors that may facilitate or inhibit the process.

7.3.3 Four-Phase Practice Development Model

Hodge et al. (2011) used a four-phase practice development model to evaluate the implementation of the advanced clinical nurse (ACN) role in the emergency department. This model was used because the evaluation of ACN roles was scarce in the literature. The model was developed originally by Ward et al. (1998) who propose a practice development model to develop, implement, and evaluate a programme. The model consists of four phases: (1) orientation, (2) preparation for change, (3) process of change and its evaluation, and (4) comparative analysis.

The orientation phase involved activities employed to understand the context for change by gathering baseline data on a practice (Ward et al., 1998). In the study by Hodge et al. (2011), the aim of this phase was to understand: (a) goals, (b) scope of practice, (c) practice model, (d) education programmes, (e) strengths, and (f) weaknesses related to the advanced clinical nurse (ACN) role by: (1) exploring related literature, (2) conducting informal meetings with senior nursing and medical staff, and (3) gathering relevant data via a questionnaire. The 'preparation for change' phase focused on developing a systematic plan based on phase one's findings. Emergency department stakeholders, nursing management, and emergency staff specialists were invited to formulate the plan, including the development of an education programme for the role (Hodge et al., 2011). Phases three and four included the process of implementation and evaluation of the practice change. Instruments used in the orientation phase may also be used in this phase. Hodge et al. (2011) concluded that the use of four-phase practice development model provided a better understanding of the development, implementation and evaluation of the ACN role.

Although the transition process is not explicitly divided into different phases, the transition theory also operates within the same logical frame of thinking. For instance, the *level of planning* concept suggests that planning occurs before and during a transition in accordance with ongoing assessments and

evaluations (Schumacher and Meleis, 1994). The authors also highlighted that effective planning requires a comprehensive understanding of issues and needs which may emerge during a transition. *Transition conditions* should be made conducive throughout the process. Furthermore, Meleis et al. (2000) recommended establishing not only *outcome indicators* but also *progress indicators*. *Progress indicators* serve as early cues to detect *role insufficiency*, which may arise during a transition. Thus, any necessary *role supplementation* can be injected into the process in order to prevent the transition moving towards an unhealthy condition.

Similar to the implementation framework, the 'four-phase practice development model' also specifies activities included in the process of: (a) development, (b) implementation, and (c) evaluation of an emergency nurse's role.

7.3.4 Interprofessional Theoretical Framework

A change in the scope of emergency nurses' practice will inevitably change how they work with other healthcare professionals. Hoskins (2012) adapted the interprofessional theoretical framework of Headrick et al. (1998), to specifically explain how changes in interprofessional working occur simultaneously with the transitioning of the emergency nurse practitioner role. The framework describes that during the transition, the role-relationships of emergency nurse practitioners (ENPs) and other healthcare professionals, move around three spectra of activity: (1) task substitution, (2) role substitution, and (3) interprofessional working. Hoskins (2012) discussed various definitions of the three spectra and how these related to emergency nurses' role. Using the work of Yong (2006), she refers to 'task substitution' as 'delegation of clinical responsibilities to lesser trained healthcare professionals under medical supervision'. She then highlighted that over time task substitution automatically leads to role substitution since a set of tasks that define the role are carried out by another professional. For

interprofessional working, she used the key features suggested by Carrier and Kendall (1995), which include the sharing of values, knowledge, autonomy, and territory where necessary.

The interprofessional theoretical framework suggests that at the earlier phase of the role transition, the work of emergency nurse practitioners is usually informed by task substitution. As the transition progresses and other professional groups and policy makers start to recognise and accept the emergency nurse practitioner's role along with specific competencies and skills, emergency nurse practitioners' work moves towards interprofessional working (Hoskins, 2012). This notion explains further a phenomenon found in the realist-informed review about the emerging of 'extended' practice nurse's role. The role worked under the task and role substitution spectrum without legal recognition at the earlier phase of the role transition, before moving towards the 'advanced' practice nurse's role, in which the role was placed under the interprofessional working spectrum.

The 'extended practice' nurse's role phase is considered as an important phase in the transition process towards 'advanced practice' nurses. This phase provides an opportunity to build mutual understanding among healthcare professionals and policy makers regarding the advanced practice nurse's role by demonstrating its contribution to a specific and discreet knowledge base (e.g., minor injury and illness) (Hoskins, 2012). However, the transition can only move forwards to advanced practice nurse's role when the formal policy related to the role, including its authority, is placed into the system. A robust evidence-based evaluation of the role and development of speciality knowledge is necessary for the establishment of formal policies (Hoskins, 2012).

In transition theory, the concept of *well-being of relationships* links to the interprofessional theoretical framework. *Well-being of relationships* is one of the indicators of a healthy transition, which includes adaptation, integration,

appreciation, and meaningful interaction with other members, as well as wider organisational levels (Schumacher and Meleis, 1994). Therefore, within the role transition of emergency nurses, a high quality of relationships with: (1) other healthcare professionals, (2) emergency department managers, (3) hospital managers, and (4) higher level policy makers should be achieved and maintained. Schumacher and Meleis (1994) emphasised that during a transition, *role supplementation* should be targeted at mitigating any actual or potential obstructions in relationships as well as trying to establish new relationships based on mutual understanding and common grounds.

7.3.5 Receptive Contexts for Change Framework

In their systematic review paper Woo et al. (2017) specifically discussed contexts that make advanced practice nurse's roles work (or not) in the emergency department by using the receptive contexts for a change framework as suggested by Pettigrew et al. (1992). Similar to the 'sustainability of innovation' framework which emphasises on the importance of context in the transition process, Pettigrew et al. (1992) highlighted eight factors that provide strategic thinking around contexts of change: (1) a high quality and coherent policy, (2) key people leading change, (3) environmental pressure, (4) a supportive organisational culture, (5) managerial-clinical relations, (6) cooperative inter-organisational networks, (7) simplicity and clarity of goals and priorities, and (8) the change agenda. The notion of these factors is dynamic and seen as a series of loops that are continuously constructed as the change progresses. Interactions occur throughout the transition process and move these contexts from non-receptive to receptive (Pettigrew et al., 1992). In their review, Woo et al. (2017) discussed three apparent factors that affect the receptivity of context to change in the emergency nurse practitioner role: (1) the presence of environmental pressure, (2) supportive organisational culture, and (3) managerial-clinical relationships. In transition theory, these factors are referred back to *transition*

conditions, which have been discussed under ‘the sustainability of innovation’ framework section.

The five theoretical frameworks address different aspects in a transition process. These frameworks provide assisting tools in the process of development, implementation, and evaluation of emergency nurse practitioner’s roles since the frameworks are used in studies that specifically investigate and explore the role transition of emergency nurse practitioners. Furthermore, the five theoretical frameworks emphasise that the use of a framework in the development, implementation, and evaluation of the emergency nurse practitioner role is necessary. Such a framework helps to disentangle the complexity of implementing the emergency nurse practitioner role as a strategy created to improve clinical and organisational outcomes in emergency departments. These frameworks along with their practical tools can be potentially used for my future follow-up studies around emergency nurses’ role transition.

The transition theory, the middle-range theory (MRT) of this study as have been discussed previously, manages to integrate all concepts explained in the five theoretical frameworks into a ‘realist’ logic of thinking. This focus comes in the form of context, mechanism, and outcome as well as potential intervention that can be implemented to support the transition. The overarching concept is a common key characteristic of MRT, since one of the MRT’s functions is to offer explanations regarding several emerging concepts informed by social phenomena.

The transition theory was constantly re-visited through the abduction and retroduction process of analysis whenever new concepts emerged throughout my study. I consider transition theory as the blueprint that I regularly visit to review the logic of causation in my transition study. I plan to use this theory for my future work to establish a potential strategy that can be utilised to further support emergency nurses’ role transition. As has been

discussed in [Chapter 3: Research Design and Methods](#), realist researchers embrace the notion of explanation through mechanisms; acknowledging that some mechanisms can be un-observable or that multiple possible explanations exist. Therefore, for a future project I am open to the possibility of searching for another additional middle-range theory (MRT) if transition theory is no longer relevant or cannot address new emerging phenomena. This circumstance may become relevant when the role transition progresses, and more mechanisms are revealed. However, in my current study, transition theory still stands out as the MRT that demonstrates its value to: (a) connect interrelated concepts, (b) explain realist logic of causations, and (c) advance transition strategies based on context-mechanism interactions.

The following sections continue to break down and discuss the context-mechanism-outcome (CMO) structure revealed by the study and realist-informed review (RIR). Note that concepts drawn from transitions theory are written in *italics*.

7.4 Contexts

The result from the realist-informed review (RIR) showed that the main driving force for emergency nurses' role transition across the world is the presence of environmental pressures, such as a change in a country's healthcare system (Fotheringham et al., 2011, Woo et al., 2017) and increasing number of non-urgent self-referral patients (Norris and Melby, 2005, Snyder et al., 2006, Chung, 2008, Lowe, 2010, Woo et al., 2017); the latter situation leading to increased patient waiting times in the emergency department (Norris and Melby, 2005, Chung, 2008, Lowe, 2010). Moreover, the ageing population (Schrivver et al., 2003, Chung, 2008, Woo et al., 2017), the need to create a cost-effective health service delivery (Woo et al., 2017), and changing political landscape (Fotheringham et al., 2011, Woo et al., 2017) were also considered as driving forces. These situations trigger the implementation of the advanced practice nurse's role in the emergency

department as a strategy to address these challenges, particularly in high-income countries such as the United Kingdom, the United States, and Australia.

The emergency department featured in my study also experienced the same environmental pressures, including an increase in non-urgent self-referral patient numbers and waiting patients, as well as delayed consultation time. In Indonesia such problems have existed for decades, particularly in major emergency departments (Attas, 2015, Kusumawati et al., 2019). However, in Indonesia the development of the emergency nurses' role as a response to emergency department issues, is relatively slow in gaining attention from relevant parties. Therefore, the development moves at a different speed when compared to high-income countries. The difference is caused primarily by the distinct contexts for change that influence the movement to develop the advanced practice nurse's role in the emergency department.

In critical realism, a context is directly linked to a structure, which then connects to human agencies; a progression explained in [Chapter 3: Research Design and Methods](#). According to Danermark et al. (2002) and Danermark et al. (2019), a structure is always the context in which human interactions occur; however, at the same time the interaction may rearrange the context, whereby the structure is also transformed. Moreover, the concept of emergence between social structure and human agency acknowledges that the power to change a structure is possessed by particular groups of agency (Elder-Vass, 2010). Using these concepts, it is clear that regardless of issues faced by emergency departments, when the key actors do not consider an advanced practice nurse's role as one of the solutions, then a transition will not occur. Decisions of key actors to take or not take action related to the advanced role are influenced by many factors across system levels. Key actors' interactions are crucial for decision-making processes that affect the transition.

There are five contexts that are considered as key (groups of) factors that can influence role transition: (1) a high quality and coherence policy, (2) organisational support and manager-clinical relations, (3) quality of intra- and interprofessional collaboration, (4) accredited and standardised education, and (5) time, financial, and personal factors.

7.4.1 High Quality and Coherent Policies

The results of the realist-informed review (RIR) suggested the importance of setting the future direction of emergency nurses' role transition early (i.e., either it moves towards ENP, ANP, or something else). Once the direction has been set, all necessary policies such as:

- (1) standardisation of education (Tye and Ross, 2000, Schriver et al., 2003, Norris and Melby, 2005, Griffin and Melby, 2006, Snyder et al., 2006, Fotheringham et al., 2011, Melby et al., 2011, Karanikola et al., 2017),
- (2) model of care and nurse practice law (Snyder et al., 2006),
- (3) certification and credentialing systems (Snyder et al., 2006, Trisyani and Windsor, 2019),
- (4) career frameworks (Fotheringham et al., 2011, Bagley, 2018), and
- (5) pay systems (Tye and Ross, 2000, Schriver et al., 2003, Norris and Melby, 2005, Fotheringham et al., 2011) can be developed accordingly.

High quality and coherent policies serve as analytical and process components of transitions according to Pettigrew et al. (1992). The authors suggested that policy can push managerial-clinical relations, organisational culture, and inter-professional collaboration towards healthy transitions by establishing the necessary / required regulations or guidelines. Such policies can also help set directions and give legal and / or financial support throughout transitions. Policy and regulation around the scope of advanced role practice will determine whether the emergency nurses' role can move flexibly between 'minor illnesses' and the more severe patients. In some emergency departments (EDs), particularly in rural areas, the roles of

advanced nurses include all patient conditions from minor to major (Roche et al., 2017). Meanwhile, in urban EDs, the role is separated (Bryson, 2016). This condition influences the transition process of the role, including nurses' education and training programme. Therefore, reconstructing policy is a feedback loop process within the transition process. At the earlier phase of transitions, the development of related policy becomes the outcome of the underlying mechanisms. In the later phase, such policy becomes a conducive context triggering particular mechanisms which are required to move the transitions forward to the next stage. Thus, for future reference, when designing a transition plan for the emergency nurses' role in the emergency department: (a) the type of emergency department, (b) the workflow, and (c) workforce flexibility should all be taken into account.

Similarly, in my study, the establishment of related policies was expected to be carried out. However, the focus of the policies was not on the advanced practice nurses' role. Findings from this study indicate there was more concern relating to policies regarding education and training of emergency nurses to ensure they performed their daily roles adequately. For instance, how clinical rotations offered nurses the opportunity to learn how to assist a specialist when inserting a central venous catheter (CVC) or catheter double lumen (CDL). The current study suggests that policies relating to: (a) scope of practice, (b) certification system for work-based learning, (c) career ladder, and (d) a reward system for staff performing educational roles need to be developed. Another concern that emerged from the study is about emergency nurses' degrees or levels of authority. Although nurses perform frequent interventions, such as: (1) an electrocardiogram (ECG) recording, (2) inserting a naso-gastric tube (NGT), and (3) inserting peripheral intravenous (IV) lines, a physician is required to authorise these interventions; an arrangement which negatively affects the nurses' pay system. Such circumstances are common in emergency departments in Indonesia (Trisyani and Windsor, 2019).

Moreover, the emergency department featured in this study also plan to establish the department of emergency medicine. Thus, there is a shared agenda in the emergency department to push forward the development of emergency nursing and medicine towards a speciality area. Analysing the situation in the emergency department of the current study, it is important that emergency department managers and hospital managers should first set a clear direction towards emergency nurses' roles. Those with relevant authority (power) should reassess and reformulate a strategic plan around role utilisation of emergency nurses in the emergency department to support the new mission of the department and to achieve a high quality of emergency services. These points highlight urgent steps in the emergency nurses' role transition since the results will determine the establishment of policies related to: (a) the scope of practice, (b) authority, (c) pay system, and (d) preparatory education of emergency nurses.

7.4.2 Organisational Support and Managerial-Clinical Relations

In the realist-informed review (RIR) support from management (Tye and Ross, 2000, Norris and Melby, 2005, Griffin and Melby, 2006) and the inclusion of clinicians in the early process of transitions is a crucial factor for receptivity to change (Woo et al., 2017). According to Pettigrew et al. (1992), effective managerial-clinical relations involve upward and downward spiral patterns. The authors highlighted that managers need to nurture an honest and trusting environment by communicating transition goals, understanding clinicians' needs or values, and building common ground. As the transition progresses, managers need to identify and encourage clinicians who can think managerially and strategically (Pettigrew et al., 1992). These clinicians are the key actors who link different professionals or *reference groups* and give feedback to managers regarding the transition process. In return, written policy and regulations, based on the feedback, need to be established as a mechanism of support from the organisation.

The context of organisational support is not limited to institutional encouragement, instead it involves wider contexts, such as governmental bodies and professional organisations (Griffin and Melby, 2006). It was evident in the existing literature how such parties work in partnership to develop: (1) standardised education, (2) credentialing, (3) accreditation, (4) funding, (5) pay system, (6) career ladder, and (7) model of care to support the implementation of the role.

Results of my study highlight the important roles of managers and senior clinicians in enhancing the knowledge and skills of emergency nurses. Both groups have shown *awareness* and *active engagement* towards the transition of nurses' knowledge by performing bedside teaching, team simulation or case discussion. Some new policies (e.g. nurse as triage officer) implemented in the emergency department allow nurses to work more autonomously. This policy is evidence of a recognition from managers of emergency nurses' role in triaging and maintaining patient flow. Nevertheless, the scope of support in the current study is still limited by the strength of institutional support, with a focus more on improving the knowledge and skill levels of emergency nurses.

The findings highlight that the institution and professional organisations are aware of the need to develop university-based specialist education and formal accredited work-based learning; however, these entities have yet to work together on this task. Another study by Trisyani and Windsor (2019) carried out in different emergency departments in Indonesia also emphasises the need for higher education and a more formal learning process for emergency nurses. These results are evidence that the effort to improve knowledge and skills of emergency nurses should be engaged with across system levels from institutions to the national level and include wider related parties than are currently involved.

7.4.3 Quality of Intra- and Interprofessional Collaboration

The transition of the emergency nurses' role towards an advanced role across the world requires a redefinition of the scope of practice and authority (Woo et al., 2017). This process may affect both intra-professional and inter-professional collaboration (Chung, 2008, Karanikola et al., 2017, Woo et al., 2017).

A lack of understanding from nursing colleagues about the scope of practice and authority of nurse practitioners was considered as a barrier to that role's progression according to Keating et al. (2010). Their study discussed how the lack of awareness about the scope of practice and authority of nurse practitioners affects task distribution between a registered nurse and nurse practitioner (NP). Moreover, medical colleagues' limited understanding of the nurse practitioner's role also influences collaborative practice between the two professions in the emergency department (Griffin and Melby, 2006, Keating et al., 2010, Bryson, 2016, Lloyd-Rees, 2016, Fox et al., 2018). Unclear policy and regulations regarding the scope of practice of nurse practitioners contributes to a lack authority and conflict when trying to achieve collaborative practice.

However, it is worth comparing my study with Trisyani and Windsor (2019); both research initiatives have identified that policy and regulation related to nurses' scope of practice are the main problems that lead to a lack of authority; even though the circumstances in the two studies are different. The emergency nurses' authority in my study is limited because policies tend to restrict the role of emergency nurses in a major emergency department. In such a context overlapping authorities exist among professional groups, including generalist, specialists, and even subspecialists. On the contrary, in rural emergency departments, as in the study by Trisyani and Windsor (2019), lacking authority occurs because the current policy has not regulated nurses' authority towards dealing with minor illness and injury patients in a circumstance where there is no, or only very limited, access to a physician.

Besides lacking authority, an unclear scope of practice also creates uncertainty in professional boundaries; a situation potentially resulting in intra- and interprofessional conflict (Tye and Ross, 2000, Christofis, 2001, Norris and Melby, 2005). Poor quality of intra- and interprofessional collaboration will negatively affect emergency nurses' performance and job satisfaction (Norris and Melby, 2005, Bryson, 2016, Lloyd-Rees, 2016, Karanikola et al., 2017). Such outcomes can be considered as *progress indicators* towards an unhealthy transition, which needs immediate *role supplementation* in the form of injecting an intervention into the transition process to redirect an unexpected outcome towards an expected and desired outcome. On the contrary, positive professional relationships of nurse practitioners with nursing and medical staff will contribute to easing the nurse practitioners' role transition (Shea and Selfridge-Thomas, 1997, Fry and Rogers, 2009, Karanikola et al., 2017, Bagley, 2018).

Therefore, considering these circumstances, policy and regulations around emergency nurses' scope of practice should include authority when working: (a) collaboratively (e.g., different specialists exist), (b) independently (e.g., there is no (limited) physician available), and (c) with minor as well as severe conditions. It is important that the transition of the emergency nurses' role is followed by the transition of associated appropriate authority to prevent any conflict or confusion regarding what such a nurse can and cannot do in order to avoid any stagnation or barriers impeding the emergency nurses' profession. Thus, the reconstruction of role-relationships of emergency nurses was also configured as one of important process in their transition.

However, when discussing authority and professional roles, it is worth highlighting a multi-professional framework for advanced clinical practice published by Health Education England [HEE] (2017). The framework was established as a response to the need for a more flexible workforce in emergency areas, comprising different professional groups. According to

Crouch and Brown (2018) within this framework, professional roles need to transition based on competence instead of professional identity, while focusing on the needs of the patient. They suggest that the unique contributions of different healthcare professionals can be valued by this shared framework. In addition, richer skill mixes may be obtained. They also emphasise that the advanced clinical practice framework may become the future model of care in the emergency area.

This notion may be considered as presenting an ambitious and demanding agenda in an Indonesian context, considering the limitations in resources and current unclear status of the emergency nurses' role. However, perhaps for as a long-term goal, the framework may be still relevant.

7.4.4 Accredited and Standardised Education

It was evident in the realist-informed review that both emergency nurses and other professional groups who work closely with nurses considered that the knowledge and skills of emergency nurses should simultaneously change as the role progresses and develops (Shea and Selfridge-Thomas, 1997, Norris and Melby, 2005, Griffin and Melby, 2006, Chung, 2008, Lowe, 2010, Karanikola et al., 2017). Strong fundamental knowledge and skills of emergency nurses can build trust among professional groups towards the new roles of emergency nurses, as these attributes are considered as a requirement for the nurses to demonstrate safe and outstanding practice (Norris and Melby, 2005).

Accredited and standardised education are the important factors within the transition process informing emergency nurses' knowledge and skills because they ensure credibility of the role (Shea and Selfridge-Thomas, 1997, Tye and Ross, 2000, Griffin and Melby, 2006, Melby et al., 2011). Different standards of nurse practitioner education have been reported in the literature (Norris and Melby, 2005, Snyder et al., 2006, Hudson and Marshall,

2008, Fotheringham et al., 2011, Hodge et al., 2011, Melby et al., 2011, Bagley, 2018). Some literature also suggested that the available education and training programmes have not adequately met the needs of emergency nurse practitioners (Bryson, 2016). These variations lead to reduced support from medical colleagues and a loss of recognition of the role in some institutions (Hudson and Marshall, 2008). Furthermore, Norris and Melby (2005) also emphasise that accredited and standardised education frequently leads to an improvement of interprofessional collaboration.

Moreover, the realist-informed review (RIR) also highlights the importance of a university-based degree course and practice-base in nurse practitioner education (Keating et al., 2010, Melby et al., 2011, Bagley, 2018). Post-graduate and masters are introduced as a preparatory education for the advanced role in high-income countries, such as the United Kingdom and the United States (Bryson, 2016, Karanikola et al., 2017). Meanwhile, the work-based learning methods reported in the literature included preceptorship, mentorship, and clinical supervision (Shea and Selfridge-Thomas, 1997, Schriver et al., 2003, Snyder et al., 2006, Chung, 2008, Fry and Rogers, 2009, Lowe, 2010, Melby et al., 2011).

In Indonesia the minimum requirement of education and training for nurses who wish to work in the emergency department are a Diploma or Bachelor of Nursing with basic emergency training, such as basic life support or equivalent. Master level in emergency nursing is available in Indonesia, but the programme is only offered by limited institution and there is no emergency nursing specialist programme (Trisyani and Windsor, 2019). However, since the system of advanced practice nurses' roles has not been introduced in emergency departments yet, individuals with a higher level of education (e.g. masters) usually take structural or managerial roles. Moreover, there is no standardised work-based learning in the emergency department of the hospital in this study, as yet.

Although in my study some learning activities have been observed in the emergency department, such as case discussion, but the process is informal and could be optimised further. Optimisation of education and training of emergency nurses in the current study includes the establishment of the certification system, relevant policy development, and regulations related to work-based learning. Trisyani and Windsor (2019) also found that the available education and training programmes are yet to adequately meet the needs of nurses in Indonesian hospitals' emergency departments.

Accredited and standardised education in the Indonesian context at this stage would not be for the advanced practice role in nursing. Instead the preparatory education would more focus on improving the knowledge and skills of emergency nurses to perform their current everyday roles adequately. However, this momentum could be used to simultaneously redesign the future trajectory of emergency nurses' roles and how such roles can be utilised to improve emergency services and the clinical outcomes of patients. Thus, appropriate educational preparation can and should be established.

7.4.5 Time, Financial, and Personal Factors

The realist-informed review (RIR) showed that role transitioning is a long-term process requiring an extensive investment. There are several factors, including time, financial, and personal factors that may influence the transition process.

At the early development stage of the advanced role, emergency department (ED) senior nurses were offered that role. There were three personal attributes of ED senior nurses that were considered as important factors for the role progression: (1) having at least five years of experience, (2) demonstrating a high level of clinical competency, and (3) having an interest or motivation to become a nurse practitioner (Shea and Selfridge-Thomas, 1997, Keating et al., 2010, Melby et al., 2011, Lloyd-Rees, 2016).

Moreover, transitioning the knowledge and skills of emergency nurses to meet the requirements of the advanced roles is central in the process of role transition. Besides, Norris and Melby (2005) highlight that emergency nurses' knowledge and skills levels can affect the quality of interprofessional collaboration. This finding resonates with the current study around the reconstruction of emergency nurses' role-relationships, showing the importance of emergency nurses' knowledge and skills when it comes to improving collaborative practice. However, the realist-informed review showed that deficits in time and financial limitations were considered as disabling factors in the pursuit of ongoing education for advanced roles (Keating et al., 2010, Lloyd-Rees, 2016, Fox et al., 2018).

Initially, during the earlier phase of role transition, institutions and wider organisations such as Departments of Health, provided funding for the development of the nurse practitioner (NP) role in their emergency departments, including the education cost to become NP (Christofis, 2001, Schriver et al., 2003, Snyder et al., 2006, Hudson and Marshall, 2008, Fry and Rogers, 2009, Keating et al., 2010, Karanikola et al., 2017). However, in the later phases of the transition process, budget limitations became a major barrier to role progression and sustainability (Keating et al., 2010, Karanikola et al., 2017). Self-funding of nurse practitioner education without remuneration upon completion made nurses reluctant to take on the role (Melby et al., 2011, Lloyd-Rees, 2016). Therefore, equitable policies about pay systems, careers, or incentives for the advanced role should be formulated as ways to acknowledge the crucial contribution of nurse practitioners to the emergency service. If these changes do not happen, the notion of the nurse practitioner role only becomes the reactive response of related parties towards environmental pressures in the emergency department. More burden is placed on nursing staff with no (or limited) benefits for emergency nurses as the owners of the role.

Findings from the literature around time, financial, and personal factors need to be considered in the development of the emergency nurses' role in the emergency department in my study.

In transition theory, these five contexts: (1) a high quality and coherent policy, (2) organisational support and manager-clinical relations, (3) quality of intra- and interprofessional collaboration, (4) accredited and standardised education, and (5) time, financial, and personal factors are linked to the concept of *transition conditions* at *personal*, *community*, and *society level* that influence each other. The concept emphasises that the failure to make one component receptive to change may cause other contexts to also be unresponsive to change, which may lead to an obstruction of the transition process (Meleis et al., 2000). These interrelated conditions were evident within the five contexts of emergency nurses' role transition. For instance, how personal factors such as emergency nurses' knowledge and skills influenced the quality of interprofessional collaboration, while the knowledge and skills were strongly dependent on the availability of accredited and standardised education. Such education cannot be accomplished without organisational support in the form of partnerships with governmental, institutional, and professional organisations.

The following sections present the underlying mechanisms that shape emergency nurses' roles revealed by my study and realist-informed review and their interactions with the five contexts producing the outcomes.

7.5 Mechanisms

Strategies related to emergency nurses' role transition that were configured in the current study are: (a) knowledge brokering and (b) reconstructing emergency nurses' role-relationships. There were three perceived underlying mechanisms of the knowledge brokering: (1) catalysing knowledge translation into practice, (2) informing a bridging policy, and (3) supporting a

work-based learning process. Meanwhile, the reconstruction of emergency nurses' role-relationships offered reformulation of the emergency nurses' professional identity and authority. The realist-informed review (RIR) showed that the main strategy in emergency nurses' role transition is knowledge brokering. The results from RIR highlights key actors and their contributions, as key mechanisms, in the transition process.

Knowledge brokering becomes the key strategy that moves in a spiral motion to create conducive contexts, which include high quality and coherent policies and interprofessional collaboration by triggering the process of reconstructing emergency nurses' role-relationships. In the realist-informed review, ineffective knowledge brokering had been evident and produced negative feelings towards transitions due to inadequate knowledge and skills when performing emergency nurses' roles (Shea and Selfridge-Thomas, 1997, Griffin and Melby, 2006, Chung, 2008, Lowe, 2010, Karanikola et al., 2017). According to transition theory, these negative feelings link to *subjective well-being*. *Subjective* (e.g., emergency nurses) *well-being* serves as *progress indicators* of the transition process (Schumacher and Meleis, 1994).

The appearance of feelings of stress and uncertainty (Tye and Ross, 2000), or inadequate knowledge and skills are unexpected outcomes, which indicate that the transition is moving towards an unhealthy condition. These circumstances occurred because resources offered by knowledge brokering are insufficient to overcome the barriers in the contexts. For example, ineffective knowledge brokering failing to redefine professional relationships and transform related policy leads to poor intra- and interprofessional collaboration within the transition context (Karanikola et al., 2017). The authors highlighted that this situation made emergency nurse practitioners feel rejected and marginalised. Moreover, in the current study, the context of limited individual and collective capacity to broker have altered the process of knowledge brokering. In return, key mechanisms of knowledge brokering to

support work-based learning and inform policy related to work-based learning, were not achieved so resulting in knowledge and skills insufficiency. Both examples demonstrated the central role of knowledge brokering.

Knowledge brokering operates at two different levels: individual and collective. Functions of brokering in each level are different but interrelated, meaning that each process may have different context-mechanism interactions. However, those levels can work together to create receptivity to change in context that in turn triggers certain mechanisms to work and produce the expected outcomes.

7.5.1 Individual brokering

According to Fernandez and Gould (1994) there are five roles in individual brokering: (1) liaison, (2) itinerant broker, (3) representative, (4) gatekeeper, and (5) coordinator as has been discussed in [Chapter 5: Knowledge Brokering](#). The individuals in these roles are expected to have the capacity to broker. Kislov et al. (2016) suggested three central skills of the individual broker: (a) information management, (b) linkage and exchange, and (c) capacity building.

Findings of the current study have provided evidence relating to the process of individual knowledge brokering in the emergency department. For example, how individuals from different professional backgrounds such as specialists, senior nurses, and emergency department (ED) managers conducted case discussion or demonstrated certain procedures, e.g. abdominal physical examination, during morning rounds in order to update the knowledge and skills of emergency nurses. Such conduct has shown that the individual capacity of the broker plays an important role in improving the competency of emergency nurses as a part of the transition process. However, the individual brokering process in the ED is mainly focused on supporting work-based learning activities. Other functions of knowledge

brokering, such as shaping policy and catalysing knowledge translation into practice, were less evident in the current study.

The realist-informed review (RIR) showed more specific mechanisms of how individual brokering is expected to work to support emergency nurses' role transition. According to Karanikola et al. (2017), some individuals act as frontrunners, who adopt and implement all programmes related to the role. Others act as clinical leaders, who (1) influence and inspire peers across professional groups and (2) effectively participate in transforming policy. Moreover, Snyder et al. (2006) highlighted there are key actors who become spokespersons that promote the role to others and involve all important parties throughout the transition process. These individuals are perceived to have the ability to initiate actions, engage peers, use evidence-based knowledge, and communication skills to support the transition (Lowe, 2010, Karanikola et al., 2017).

Therefore, individual brokering emphasises the need for key actors who have the capacity to lead changes within a wider context of role transitions and who are not limited to transforming knowledge and skills of emergency nurses in one institution. Some individuals may function as a broker for several goals, such as informing policy, facilitating evidence-based practice, and mentorship in brokering, while others may only focus on one goal. Such differences depend on each person's capacity to broker.

7.5.2 Collective brokering

The realist-informed review (RIR) highlights that developing and implementing the advanced practice nurses' role to improve clinical and organisational outcomes is a complex process because the social structure of healthcare is complex. Therefore, there is a need to scale up individual brokering and include collective brokering in the process of the role transition. It is worth noting a study carried out by Tye and Ross (2000) when

configuring collective brokering. Their discussion section emphasises that any role performed is a reflection of the individual, which refers to:

“...their capacity for cognition and communication, by emotional and experiential capabilities, as well as by their membership of a social of professional group. This individuality also operates at an organizational level...” (Tye and Ross, 2000, p.1095)

This reflection means that the role of collective brokers is fundamentally constructed by a group of individual brokers who share the same vision, mission, and mutual understanding towards certain phenomena. However, collective brokering can only be effective when the group has the power to make necessary changes. This circumstance can be explained using a critical realism concept of emergence explained by Elder-Vass (2010) and Wynn and Williams (2012) in section [3.3 Philosophical Stance](#). The concept of emergence in the context of collective brokering means that the power to influence is only produced when members of the group are collectively organised to move synchronously towards a certain goal (e.g., establishing an advanced nurse practitioner role). The aims of collective brokering are to strengthen the position of an individual and to support their efforts in brokering, as well as to include wider organisations throughout the transition process. Collective brokering offers more strength in securing legitimate power and positioning the emergency nurses' profession in healthcare than does individual brokering. However, in my current study, the process of collective brokering in emergency nurses' role transition was still limited.

Findings from the realist-informed review (RIR) specify three types of collective brokering: (1) emergency nurse practitioner (NP) group brokering, (2) institutional brokering, and (3) professional organisation brokering.

[7.5.2.1 Emergency nurse practitioner \(ENP\) group brokering](#)

Emergency nurse practitioner (ENP) group brokering consists of nurses who are transitioning towards the new roles in the emergency department (ED).

This type of collective brokering aimed to: (a) create a fundamental ENP value as a part of the ED team with strong components of clinical practitioner roles (Shea and Selfridge-Thomas, 1997) and (b) exhibit the ENP profile to the hospital and ED members (Chung, 2008). The group members conceptualised their roles as broker-leaders, using transformational leadership to influence and inspire others rather than as a manager with authoritative power (Karanikola et al., 2017). The ENP group developed clinical practice guidelines and directed the practice of the ENPs (Shea and Selfridge-Thomas, 1997, Lowe, 2010). They also showed enthusiasm towards the roles by sharing the learning process or findings with the other nursing staff (Shea and Selfridge-Thomas, 1997) and delineated the roles in a non-threatening manner (Snyder et al., 2006).

In my current study, ENP group brokering was not evident, as the transition process was still considered to be at an early phase. It was unclear in which direction, and towards which kinds of roles, emergency nurses were transitioning.

7.5.2.2 Institutional brokering

Institutional brokering has a strong influence over establishing high quality and coherent in: (a) institutional related policies, (b) effective managerial-clinical relations, and (c) quality of interprofessional collaboration. Managers' decisions to evaluate workforce utilisation and to take risks are considered to be the key factors influencing a successful nurse practitioner's role transition, since such decisions are followed by the development of related policies (Karanikola et al., 2017, Woo et al., 2017).

Institutional brokering operates through nurturing a receptive environment within the transition process. This process is carried out by involving individuals, groups, and other institutions in the early phases of that transition (Shea and Selfridge-Thomas, 1997, Lowe, 2010, Melby et al., 2011, Woo et al., 2017); an involvement that promotes staff engagement and leads to an

extension of a nurse's autonomy (Woo et al., 2017). Some conflicts may arise from such extension so, in order to minimise the conflict managers will establish related regulations and facilitate collaboration across professional groups; arrangements which are based on trust, respect, and shared knowledge and skills in practice (Schraver et al., 2003, Norris and Melby, 2005, Lowe, 2010, Woo et al., 2017). Over time, mutual understanding, which is achieved from such processes, encourages participation in decision making of patient treatment and policy (Woo et al., 2017). According to the authors this process is also expected to avoid over-dependence on one professional group.

In the current study, emergency nurses' role transition resulted from institutional transition in response to environmental pressures existing in the prevailing contexts. Such transitions are more often the result of authorisation from institutional or wider contexts than decisions made by emergency nurses; as is the case across countries included in the realist-informed review. Therefore, institutional brokering has been demonstrated in my study, especially efforts to enhance emergency nurses' knowledge and skill levels. One example of this initiative was through the hospital exchange programme by sending the emergency nurses abroad to obtain emergency care training. Moreover, nurses are also sent to attend triage training when the emergency department has decided to assign them to a triage role. However, in comparison to evidence from the realist-informed review, institutional brokering in the emergency department of my study was still limited and could be further improved. For instance, to what degrees institutional brokering can activate the process of collective brokering by emergency nurses, as a group, towards transitions of their profession? Moreover, regulations and policy regarding the responsibility of the potential transitioned role have not been formulated because the future direction of the role has not been clearly defined. The emergency department plans to establish 'a department of emergency medicine'; however, how this plan will

affect nurses' roles in the future, and what the impact on workflow in the emergency department will be, require further study.

7.5.2.3 Emergency nurses' professional organisation brokering

Individual brokers contribute more to the transformation of emergency nurses' knowledge and skills, interprofessional relationships, and policy at the practice level. They may also provide feedback and recommendations for higher level policy and systems based on findings in practice. Meanwhile, the brokering process of the emergency nurses' professional organisation is expected to influence the process within a wider social and organisational context.

Griffin and Melby (2006) highlighted that accredited, and standardised education are required for the new NP role in order to achieve multi-professional acceptance. These factors will also underpin the authority of the role (Trisyani and Windsor, 2019). At this point, the emergency nurses' professional organisation is central to building partnerships across institutional and governmental bodies to establish emergency nursing education (Snyder et al., 2006). Moreover, such an organisation becomes the leading voice that initiates change and sets the future direction of emergency nurses nationally through the development of a certification system (Snyder et al., 2006), core curriculum, and related regulations (Schrivver et al., 2003, Snyder et al., 2006).

Moreover, the brokering process of the professional organisation, includes encouraging a stronger relationship between nurses and other professional organisations (e.g. physicians) (Schrivver et al., 2003). Such brokering catalyses the acceptance of the emergency nurses' role at the wider organisational level which, in turn, strengthens the interprofessional relationships in the emergency department through policies and regulation as well as mutual understanding (Schrivver et al., 2003). Interprofessional

relationships increase recognition of the emergency nurses' role as a specialist role (Snyder et al., 2006).

As evident in my study, collective brokering, including professional organisation brokering, was poorly demonstrated. The regulations and policy informing training and certification are still limited. Although the transition of the emergency nurses' role in the emergency department in my study is still at an early phase, the professional organisation will play an important role in setting the future direction and policy related to the role. Professional organisations are expected to regularly review their policies in order to meet current emergency care needs, since the demands associated with that care are continuously evolving.

The dynamic interactions of knowledge brokering at individual and collective levels shape more receptive contexts towards transition. In return, such receptive contexts can activate more mechanisms in producing expected outcomes. In transitions theory, knowledge brokering resonates to the concept of *role supplementation*. One such example would be a group of specialists actively involved in *role modelling* in the form of supervising and mentoring nurse practitioners on how to: (a) prescribe, (b) diagnose, and (c) treat minor injuries and minor illness patients. Frontrunners, clinical and upper leaders, preceptor and mentor, emergency nurse practitioner groups, and professional organisations are *reference groups* that can make unique contributions to push forward and overcome problematic issues during the transition of the emergency nurses' role. These *reference groups* aim to include related parties across a broad spectrum in the transition by increasing the level of *engagement* through *communication*. Thus, relevant policies and support systems for the role can be established.

The contributions of those *reference groups* or key actors reflect five role domains of knowledge brokering proposed by Glegg and Hoens (2016) as follows: (1) information manager, (2) linking agent, (3) capacity builder, (4)

facilitator, and (5) evaluator. The authors highlight that the process of knowledge brokering is effectively a continuum operating as three different function contexts: (a) informational, (b) relational, and (c) systems. The authors also describe the process as a feedback loop in which begins by disseminating information to related parties, through to co-creating innovation through social interaction and learning. During the process, knowledge brokers simultaneously address any barriers that occur at the individual, organisational, and system levels. The logic of this knowledge brokering process fits the morphogenesis approach (Archer, 1995) regarding how social transformation occurs; used as [Methodological Stance](#) of the current study. Archer suggested that a structural elaboration occurs through interactions and only becomes a realisation when agents (e.g., key actors or *reference groups*) decide to move the process forward.

7.6 Outcomes

Findings from the literature highlight issues when evaluating the potential or actual impact of the emergency nurse practitioner role on clinical and emergency department outcomes. These issues are rooted in the lack of explanations in the reported studies about contexts, such as: (a) funding, (b) type of emergency department, (c) scope of practice, and (d) educational preparation of the emergency nurse practitioner role. In practice, disparities in the standards of the role exist. Limited information regarding contexts within evaluation studies make it difficult to analyse, interpret results, and draw conclusions regarding the results of such context-light studies. Therefore, the way contexts influence the outcomes of the role and other interactions that may affect the process remains unexplored.

Based on the realist approach, the results from the realist-informed review configured nine outcomes from the transition process of the emergency nurse practitioner role: (1) changes in related policy and systems, (2) role mastery, (3) well-being of emergency nurses, (4) well-being of role-

relationships, (5) improvement in the quality of emergency department services, (6) improvement in the quality of patients' clinical outcomes, (7) cost-effectiveness, (8) improvement in educational, evidence-based, and research activities in practice, and (9) professionalism.

It is worth noting that these findings reflect valuable contributions made by, and resulting from, the realist approach providing different insights on outcome measurement related to the transition process of the emergency nurse practitioner role. Previous studies presented indicators, which were mainly focused on key performance or emergency department services, such as patients' satisfaction and waiting times. On the other hand, the realist approach captures potential outcomes of different stages of the transition. Moreover, it should be highlighted that these outcomes are not produced in sequence during the transition process; instead the outcomes emerge iteratively and are dependent on the interaction of contexts and mechanisms. Furthermore, these outcomes also contain unintended outcomes, which means that whenever the knowledge brokering processes fails to create one or more conducive contexts some mechanisms may not be activated, resulting in unexpected or unwanted outcomes.

Changes of related policies and systems (Karanikola et al., 2017, Woo et al., 2017, Trisyani and Windsor, 2019) are crucial outcomes for the progression of the role transition. One of the aims of knowledge brokering is to transform policies and systems related to the emergency nurse practitioner. These new policies and systems become contexts which are receptive to change. Once some policies are conducive, more 'supporting' mechanisms are activated. For instance, when policies and regulations about work-based learning and educational roles in practice are put into the system (context), preceptors and mentors can optimise their role in improving emergency nurses' competency. These personnel can then facilitate knowledge translation into practice (mechanism), resulting in outcomes, such as improved educational, evidence-based practice, levels of research activity (Griffin and Melby, 2006,

Karanikola et al., 2017), and mastery of autonomous roles (Shea and Selfridge-Thomas, 1997, Chung, 2008, Fotheringham et al., 2011, Karanikola et al., 2017).

As the transition progresses and more mechanisms are activated, more outcomes will start to take shapes; for example:

- (1) the active contributions of emergency nurses towards emergency nursing science and emergency services, leading to an improvement in the quality of patient care (Griffin and Melby, 2006, Fotheringham et al., 2011, Woo et al., 2017),
- (2) reduced patient waiting times (Norris and Melby, 2005, Griffin and Melby, 2006, Lowe, 2010, Fotheringham et al., 2011, Woo et al., 2017),
- (3) improved efficiency and cost-effectiveness (Tye and Ross, 2000, Griffin and Melby, 2006, Woo et al., 2017), and
- (4) professionalism (Tye and Ross, 2000, Griffin and Melby, 2006, Chung, 2008, Fotheringham et al., 2011, Karanikola et al., 2017, Trisyani and Windsor, 2019).

According to transition theory, *well-being of subjects* and *relationships* are often used as *progress indicators*. *Progress indicators* can also reflect the quality of the transition process, whether it is moving towards a poor or healthy transition. Results from the realist-informed review portray that at early phases of the role transition when knowledge brokering processes are altered and some contexts are not ready to support the transition, unintended outcomes related to the well-being of emergency nurses and role-relationships tend to emerge.

The unintended outcomes related to emergency nurses' well-being in the literature include: (1) lack of confidence (Shea and Selfridge-Thomas, 1997), (2) dissatisfaction and disappointment (Karanikola et al., 2017, Bagley, 2018, Fox et al., 2018), (3) feeling frustrated (Tye and Ross, 2000, Keating et al., 2010, Melby et al., 2011, Lloyd-Rees, 2016), (4) feelings of uncertainty (Shea

and Selfridge-Thomas, 1997, Tye and Ross, 2000), and (5) fears of litigation (Tye and Ross, 2000, Melby et al., 2011).

Meanwhile, unintended outcomes related to well-being of relationships comprise: (1) patient reluctance (Norris and Melby, 2005, Griffin and Melby, 2006, Melby et al., 2011), (2) resistance from nursing colleagues (Norris and Melby, 2005, Hodge et al., 2011, Bryson, 2016, Lloyd-Rees, 2016), and (3) interprofessional conflict (Norris and Melby, 2005, Griffin and Melby, 2006, Hodge et al., 2011, Melby et al., 2011, Hoskins, 2012, Bryson, 2016, Fox et al., 2018). Moreover, Woo et al. (2017) and Fox et al. (2018) have highlighted that unintended outcomes are usually produced because knowledge brokering processes fail to obtain: (a) organisational support, (b) effective manager-clinical relations, and (c) high quality and coherent policies.

Similarly, in the current study, unintended outcomes related to well-being of emergency nurses and relationships were also identified. These issues included: (1) knowledge and skill insufficiency, (2) lack of confidence, (3) dissatisfaction of the role performance and reward system, and (4) work-boredom. However, these outcomes emerged as a result of current standard emergency nursing practice in the emergency department (ED) and not necessarily because of the transition process towards the advanced practice nurses' role. Since in the ED of my study the role transition is still considered at an early phase and the direction towards which type of role (e.g. emergency nurse practitioner) has not yet been determined.

Transition theory divides outcomes into *progress* and *outcomes indicators*, in which all nine outcomes found from realist-informed review were categorised. These indicators mean that related parties should seek different measures to evaluate these nine outcomes and an appropriate time scale to conduct the evaluation. Thus, early detection of poor transitions can be immediately

addressed by *role supplementation* to redirect the process towards more healthy transitions.

Lastly, it is worth mentioning that across the literature, the holistic approach of nurse practitioners is considered as a key reason that makes the role work and will cause that role to be accepted in emergency departments (Tye and Ross, 2000, Christofis, 2001, Norris and Melby, 2005, Griffin and Melby, 2006, Chung, 2008, Lowe, 2010, Bryson, 2016, Roche et al., 2017, Woo et al., 2017). The holistic approach is linked to patient satisfaction, which is one of the indicators of the quality level provided by the emergency department's service. Communication is the key component of the holistic approach of the nurse practitioner. It was reported in the literature that through communication, nurse practitioners show concern for the social and psychological needs of patients and engage by giving explanation, information, health education as well as answering their patients' questions. Moreover, the context, in terms of scope of practice of the nurse practitioner, which limit them to patients with minor injury and minor illness, also supports them to work holistically. However, if communication is the key to the holistic approach, Hoskins (2011) highlighted that in some studies that she had reviewed both emergency nurse practitioners and physicians relatively have the same length of consultation time; however, the patients were more satisfied with the service received from the emergency nurse practitioners. Perhaps there is a part of the holistic dimension of emergency nurse practitioner (ENP) practice that needs to be explored further. Such an exploration may reveal a unique contribution of ENP services in the emergency department.

Considering, the complexity of interactions between contexts and mechanisms in producing outcomes in the transition process of emergency nurses' roles, as evident in this chapter, it is highly recommended that a realist approach to role evaluation for future work should be used to measure the different forms of outcomes.

7.7 Summary

This chapter discussed the context-mechanism-outcome (CMO) of emergency nurses' role transition which emerged from the current study and realist-informed review (RIR). Links between transition theory and the proposed theoretical frameworks have been explained. Concepts drawn from transition theory have been discussed throughout this chapter.

The introduction of a new or changed role within the healthcare system is a complex process that requires involvement from different levels of the system. In order to obtain a progression in role transition, different aspects and entities need to be changed; otherwise, there will be stagnation in the process. It is suggested that to support the transition process of emergency nurses' roles, the contexts where the transition is embedded need to be receptive to change. The main strategy that can be used is through knowledge brokering. Knowledge brokering both at the individual and collective levels, operates to improve the engagement of individuals, institutions, and even wider organisations towards supporting emergency nurses' role transition. Therefore, the outcomes produced are the result of collective efforts from several changes or systems, which are introduced simultaneously. Thus, it is evident that the emergency nurses' role transition is a complex process that requires careful consideration and thorough understanding in order to facilitate its development, implementation, and evaluation.

Transition theory contributes to a better understanding of the transition process of emergency nurses' role and provides a blueprint for future development of that role. The above discussion provides a clearer view of the current transition phase of emergency nurses' role in the emergency department in my study; as well as alternatives on how to move the transition process forward. The next chapter concludes the study by discussing recommendations and study limitations.

Chapter 8: Conclusion

8.1 Introduction

This study sought to understand the contributory factors that shape emergency nurses' roles in a major emergency department (ED) in Indonesia. The previous chapter has presented discussions on realist programme theories (RPTs) in the form of the context-mechanism-outcome (CMO) developed from the data and findings from the realist-informed review (RIR). Links between RPTs and the proposed theoretical framework found from the RIR, as well as the concepts of transition theory as the middle range theory in my study have been presented. In this final chapter, contributions of the current study to the development of new knowledge are presented first. Next, the conclusions are discussed in relation to the research questions. Then, the recommendations which were drawn from the RPTs are presented. Lastly, the limitations of the study are acknowledged.

8.2 Contribution of the Study

The study used a realist approach that focused on the transition process of the emergency nurses' roles. In particular, five issues were addressed: (1) the enabling and disabling factors of the transition, (2) the direction of the role transition, (3) under what circumstances could the transition occur, (4) what outcomes were produced from the transition, and (5) how the transition operates. These areas provide four key contributions to the development of the new knowledge, as follows:

Firstly, the study provides explanations regarding various contexts in which the role transition of emergency nurses occurred. The explanations provide insights for hospital managers and other related parties into the types of advanced nursing role that may be appropriate for further development and

implementation in their institution, as well as the circumstances under which the transition would most successfully occur.

Secondly, several alternative mechanisms, were generated from this study and offer explication of how the role transition works or fails. These mechanisms can be used as strategies to support the transition process and to choose any necessary action needed to prevent role insufficiency from happening or to manage it when it does happen. Thirdly, outcomes of the role transition configured in this study serve as progress indicators of the process that can be evaluated at different points of time during the transition. These indicators allow involved parties to set a timeframe of relevant goals to optimise their success in role implementation.

Lastly, the study provides different insights into evaluating the impact of a role using a realist approach. Introducing a role as an intervention to improve clinical healthcare and organisation outcomes is a complex process. Therefore, a realist approach serves as a tool to unpack the complexity of the process by identifying outcomes of the role and providing causal explanation around the process.

8.3 Returning to the Research Questions

In concluding the study, I now return to the research questions which have guided my PhD study from its beginning:

1. What are the individual, organisational, and social contexts that influence the emergency nurses' role?
2. What mechanisms occur (or do not occur) around the role shaping?
3. What outcomes are produced from the process?
4. How do the contexts and mechanisms interplay with each other in producing the outcomes?

Emergency nurses' roles in the ED of my study have been shaped by many factors. These factors include: (a) increased presentation of non-urgent self-referral patients, (b) waiting patients, and (c) delayed consultation times. The need for the emergency department to address these challenges requires emergency nurses, as the biggest workforce in the ED, to evolve accordingly. Encouragement towards the development of emergency nursing and medicine in the ED, together with the plan to establish the department of emergency medicine in the hospital are also considered as factors that influenced emergency nurses' role transition. However, contexts of the nurses' pay system and a mismatch between expected roles and training availability are considered as obstacles within the process. Moreover, there are many intertwined factors which exist at different levels of the system that evidently influence the transition and potentially shape the nurses' new role.

The study highlighted two focused aspects of change in emergency nurses' role transition, including transformation of knowledge and skills and role-relationships of emergency nurses. There are seven factors that are considered to affect the process of transitioning knowledge and skills of emergency nurses: (1) the individual and collective capacity to broker knowledge, (2) nurses' scope of practice, (3) role-relationships, (4) the need for a certification system for the work-based learning process, (5) partnerships in emergency nursing education and training, (6) regulations and guidelines related to the transition process, and (7) the need for a career ladder and reward systems related to the educational role to be in place. When constructing the role-relationships of emergency nurses, the contexts comprising emergency nurses' knowledge and skills, authority, and patients' severity levels are important aspects of the process.

It should be highlighted from the study that emergency nurses' knowledge and skill levels become the context that influence role-relationships between nurses and other healthcare professionals, especially in conducting collaborative practice with physicians. This means that if the transition failed

to change the knowledge and skills of emergency nurses as expected, then it may affect the emergency nurses' role-relationships. The quality of the connection creates a ripple effect that may influence the whole process of transition as these factors are interrelated.

The knowledge brokering process both at the individual and collective levels has been revealed as the main underlying mechanism of emergency nurses' role transition. This process is central to overcome disabling factors in the contexts and push forward the transition. Knowledge brokering operates within the engagement levels of the involved individuals, departments, institutions, and wider organisations in emergency nurses' role transition. Individual brokering was clearly carried out in the ED of my study, but the process did not work as expected as can be seen by the emergence of unintended outcomes; for example: dissatisfaction of role performance because the process of collective brokering is still limited. As a result of limited collective brokering, important regulations and policies relevant to the role have not yet been established. In order to move the transition process forward, such policies and regulations should be put in place and should be made conducive in order to activate more mechanisms to generate expected outcomes, such as improving emergency department services.

In comparison, the findings from the realist-informed review (RIR) demonstrated that the transitioning of emergency nurses' roles is a complex process. Lesson learned from the findings suggest that knowledge brokering, both at individual and collective levels, should address extensive contexts of the role transition, in particular: (1) quality and coherence policy, (2) organisational support and strong manager-clinical area relations, (3) the quality of intra- and interprofessional collaboration, (4) accredited and standardised emergency education, and (5) time, financial, and personal factors. These five contexts should be made conducive because they are important factors that ensure the sustainability of the role and the impact that the role exerts upon: (1) patients' clinical outcomes, (2) well-being of

emergency nurses and role-relationships, (3) emergency nursing practice, and (4) emergency department services.

8.4 Recommendations

The recommendations, which are listed below, are extracted from realist programme theories (RPTs) in the form of the context-mechanism-outcome (CMO) and middle-range theory (MRT) relating to the development of emergency nurses' roles in the emergency department. Therefore, the recommendations from this study are unique since they are grounded in evidence around what works (or not), for whom, and under what circumstances; thus, they offer more alternative solutions and possible explanations rather than just highlighting the deficits.

Commitment from all stakeholders, individuals, institutions, organisations, and wider systems is necessary to support the development of the emergency nurses' roles. Such commitment is considered as an important factor for the success of the role to address ED issues and adequately contribute to the improvement of ED services.

8.4.1 Policy

A high quality and coherent policy should be established accordingly. Policies related to emergency nurses' role transition are directed at both national and local levels, which include: (1) scope of practice, (2) education and training, (3) role utilisation, (4) career pathways and pay systems.

8.4.1.1 Scope of Practice

Professional organisations related to emergency nurses and institutions should work collaboratively to clearly articulate the transition direction and scope of practice of the emergency nurses' role. In doing so, utilisation of the role in a different emergency setting, including in the ED, should be carefully

considered. Authority boundaries with medical colleagues and other healthcare professionals should be regulated in order to facilitate smooth professional practice.

8.4.1.2 Education and training

Policy and regulation should include accredited and standardised education and training systems both for university-based and work-based learning. There should be a funding scheme available for nurses who attend education and training programmes. The role of a nurse educator, particularly in work-based learning of emergency nurses, should be regulated further, including a career ladder and reward system. Guidelines related to work-based learning methods in the ED, the preceptorship and mentorship processes, and its certification system all require development. The university curriculum of emergency nursing education needs to be reviewed and redesigned based on how the role will be utilised within the emergency service provision.

8.4.1.3 Role Utilisation

There should be a clear development plan for the role utilisation of emergency nurses. Within the ED context, for instance, will the role of emergency nurse practitioners aim to address minor illness patient instead of the more severe patients or both patient groups. Such consideration should take into account factors such as: (a) emergency service model of care, (b) level or type of emergency department, (c) the service that they provide, (d) the existence of waiting patients in the ED, (e) their severity level, and (f) the average length of stay.

8.4.1.4 Career Pathway and Pay System

There should be acknowledgement at the policy level, including a career pathway and pay system for emergency nurses who take on the advanced roles discussed in this study. Further, the way the role differs from ED senior

nurses who do not take this role, and how organisations value the role, such as increased in salary and authority, are challenges that will need to be resolved.

8.4.2 Transition Strategy: Knowledge Brokering

The institutions and related organisations are expected to identify and empower individual champions at every system level who can enhance the level of engagement of related parties by improving related parties' knowledge, awareness, and involvement about emergency nurses' role transition. Collective brokering of the emergency nurse group, institution, and professional organisation that operates within the wider context should be enforced to support individual brokering to advance the role by establishing partnerships across different governmental bodies, institutions, and interprofessional organisations.

Also, it should be highlighted that knowledge brokering processes are not linear, instead, they need to be undertaken iteratively during the transition and intertwined across system levels.

8.4.3 Role Evaluation

It should be emphasised that the transition of the role of a profession is an inevitable, long, and continuous process since it is a part of responses made towards changing demands and novel healthcare issues, such as COVID-19. The role, which is introduced to the system should be adequately established. Therefore, the study proposes two different but interrelated evaluations for the role development: (1) progress monitoring and (2) role impact.

8.4.3.1 Progress Monitoring

Before the role implementation, monitoring methods and progress indicators of the role transition should be set up. The study recommends indicators such as: (1) the transformation of related policies, (2) enhancement of collaboration and communication, (3) inclusion in decision making, (4) improvement in engagement and well-being of emergency nurses as well as their role-relationships, and (5) elimination of role insufficiency as the progress indicators of the transition process. Responses, including: (a) inadequate knowledge and skill to perform the expected role, (b) lack of confidence, (c) work-boredom, (d) dissatisfaction towards role performance, and (e) an unsatisfactory reward system are all indicators of role insufficiency which can push the transition in an unhealthy direction.

The institution should have role supplementation plans to prevent role insufficiency from happening or have a plan of how to address such an issue when it occurs during the transition process. The study suggests two types of role supplementation: (1) work-based training programmes to support the transition process of knowledge as well as skills of emergency nurses and (2) clinical guidelines or integrated emergency clinical pathways to facilitate autonomous and interprofessional working.

Although tools to measure each indicator may need to be developed further, realist programme theories and middle-range theory developed from this study can be used to initially evaluate the transition's progress and underline relevant role supplementation.

8.4.3.2 Role Impact

The study highly recommends that the evaluation regarding the impacts of advanced practice nurses' roles in the emergency department should be carried out using the realist paradigm. Realist evaluation facilitates a comprehensive understanding of three aspects, including (1) contexts where

the role is developed and implemented, (2) mechanisms that make the role work or prevent it from doing so, and (3) outcome indicators. Therefore, the complexity of implementing advanced practice nurses' roles as a strategy to address emergency service issues: how advanced roles work, for whom, under what circumstances can be comprehensively evaluated.

As the transition progresses, the study also suggests evaluating outcome indicators, such as: (1) role mastery, (2) the quality of patients' outcomes as well as the emergency services offered, (3) educational, evidence-based, and research activities in practice, and (4) cost-effectiveness.

8.5 Limitations of the Study

I now present the key limitation identified from my reflections on this study. Firstly, because of the limitation in resource funding and time, this study only gathered data around emergency nurses' role in one major emergency department (ED). Therefore, it did not capture different cases from different levels and locations of the ED. Context, resources, and barriers to performing the role between rural and urban EDs may be different. The needs and future trajectory of emergency nurses' roles in rural ED areas may be dissimilar. However, this study has provided thorough explanations relating to the context-mechanism-outcome (CMO) of emergency nurses' roles by comparing the CMO of my study and the realist-informed review (RIR). Thus, the discussion facilitated understanding of the role transition from the earlier to the later phase, different contexts, expected and unexpected outcomes, and proposed strategies that can be used to support the process.

Secondly, realist programme theories (RPTs) developed in this study have not been tested against other different empirical cases. Therefore, RPTs may only be applicable to this study's context. However, the study managed to develop transition theory as the middle-range theory (MRT) of the study. The MRT operates at a higher level of abstraction than RPT but is still grounded

to the data. Thus, the MRT can be extended beyond a given context and is specific enough to permit testing or generating different study opportunities and interventions for practice (Lenz et al., 1995). Moreover, the study also provides a comparative discussion between the CMO configured from the study and the realist-informed review (RIR) of existing international literature. Thus, the current study provides sufficient answers to the research questions, thereby advancing understanding of the transition process, as well as providing a blueprint for future research into, and development of, emergency nurses' roles.

Lastly, although the best efforts have been made to observe activities involving interactions between nurses and physicians, there were only limited work-based learning activities that could be observed in the ED. This circumstance happened because, during the period of observation, there are no scheduled learning activities, such as team simulations. I only captured activities such as patient discussions between emergency nurses and physicians and hand overs. However, to obtain a better understanding of work-based learning, I did the necessary exploration through the participants' interview.

8.6 Summary

To conclude, this study has explored contributory factors that shape emergency nurses' role in a major emergency department by using a realist approach. The findings suggest there are two focused aspects of change in emergency nurses' role transition: (1) the transformation of knowledge and skills and (2) role-relationships of emergency nurses. Such transformation is influenced by various contexts which exist at different system levels. The knowledge brokering process both at the individual and collective levels is revealed as the main underlying mechanism of emergency nurses' role transition. This process is central to overcoming disabling factors in the contexts and pushing forward the transition. Knowledge brokering operates

within the engagement levels of involved individuals, departments, institutions, and wider organisations in emergency nurses' role transition. Knowledge brokering, both at the individual and collective levels, is the central process that influences emergency nurses' roles.

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Appendix 1: Searching Strategy

INITIAL (BACKGROUND) SEARCH

CINAHL Plus

Code	Keywords	Results	Code	Combination	Results
S1	Advanced practice nurse or advanced practice nursing or nurse practitioners	46,676	S5	S1 or S2 or S3 or S4	126
S2	Role	409,022		Full-text and abstract available	87
S3	History or development	587,363			
S4	Emergency department of emergency room	57,948			

MEDLINE

Code	Keywords	Results	Code	Combination	Results
S1	Advanced practice nurse or advanced practice nursing or nurse practitioners	7,737	S5	S1 or S2 or S3 or S4	30
S2	Role	2,338,296		Full-text and abstract available	13
S3	History or development	3,237,637			
S4	Emergency department of emergency room	82,258			

PsycINFO

Code	Keywords	Results	Code	Combination	Results
S1	Advanced practice nurse or advanced practice nursing or nurse practitioners	1,511	S5	S1 or S2 or S3 or S4	5
S2	Role	443,427		Full-text and abstract available	4
S3	History or development	721,203			
S4	Emergency department of emergency room	8662			

EMBASE

Code	Keywords	Results	Code	Combination	Results
S1	Advanced practice nurse or advanced practice nursing or nurse practitioners	21,641	S5	S1 or S2 or S3 or S4	46
S2	Role	2,542,033		Full-text and abstract available	7
S3	History or development	3,700,948			
S4	Emergency department of emergency room	116,904			

SECOND SEARCH

CINAHL Plus

Code	Keywords	Results	Code	Combination	Results
S1	Nurs*	858,665	S8	S3 or S4 or S5 or S6 or S7	640,270
S2	Role	473,051	S11	S9 or S10	70,987
S3	Transition*	51,116	S17	S12 or S13 or S14 or S15 or S16	1,177,337
S4	Expand*	51,097	S21	S18 or S19 or S20	304,859
S5	Extend*	60,653	S22	S1 and S2 and S8 and S11 and S17 and S21	91
S6	Evolution*	30,703		Full-text and abstract available	91
S7	Change*	482,765			
S9	Emergency department	65,421			
S10	Emergency room	35,061			
S12	Evaluat*	708,863			
S13	Explor*	203,669			
S14	Perspectives of views or perceptions or attitudes or opinion	320,273			
S15	Reflect*	82,958			
S16	Experienc*	271,508			
S18	Advanc*	183,328			
S19	Specialist	44,794			
S20	Practitioner	94,925			

MEDLINE

Code	Keywords	Results	Code	Combination	Results
S1	Nurs*	678047	S8	S3 or S4 or S5 or S6 or S7	3,589,097
S2	Role	2,277,044	S14	S9 or S10 or S11 or S12 or S13	5,548,696
S3	Transition*	291,321	S18	S15 or S16 or S17	42,351
S4	Expand*	204,678	S21	S19 or S20	78,253
S5	Extend*	365,250	S22	S1 and S2 and S8 and S14 and S18 and S21	37
S6	Evolution*	405,472		Full-text and abstract available	7
S7	Change*	2,572,022			
S9	Evaluat*	3,273,425			
S10	Explor*	695,900			
S11	Perspective or view or opinion or perception or attitude	1,010,839			
S12	Reflect*	484,338			
S13	Experienc*	930,691			
S15	Advanc*	653,581			
S16	Specialist	46,547			
S17	Practitioner	42,351			
S19	Emergency room	14,504			
S20	Emergency department	64,799			

PsycINFO

Code	Keywords	Results	Code	Combination	Results
S1	Nurs*	108,242	S8	S3 or S4 or S5 or S6 or S7	894,975
S2	Role	577,520	S14	S9 or S10 or S11 or S12 or S13	2,121,970
S3	Transition*	74,335	S18	S15 or S16 or S17	170,773
S4	Expand*	70,124	S21	S19 or S20	10,436
S5	Extend*	120,764	S22	S1 and S2 and S8 and S14 and S18 and S21	12
S6	Evolution*	78,388		Full-text and abstract available	4
S7	Change*	628,214			
S9	Evaluat*	571,239			
S10	Explor*	510,844			
S11	Perspective or view or opinion or perception or attitude	769,437			
S12	Reflect*	240,218			
S13	Experienc*	683,691			
S15	Advanc*	137,694			
S16	Specialist	14,780			
S17	Practitioner	20,997			
S19	Emergency room	3,363			
S20	Emergency department	7,317			

EMBASE

Code	Keywords	Results	Code	Combination	Results
S1	Nurs*	716,682	S8	S3 or S4 or S5 or S6 or S7	5,079,161
S2	Role	3,110,398	S14	S9 or S10 or S11 or S12 or S13	8,163,165
S3	Transition*	512,932	S18	S15 or S16 or S17	1,390,287
S4	Expand*	333,747	S21	S19 or S20	150,985
S5	Extend*	546,079	S22	S1 and S2 and S8 and S14 and S18 and S21	88
S6	Evolution*	534,955		Full-text and abstract available	11
S7	Change*	3,559,524			
S9	Evaluat*	4,903,759			
S10	Explor*	1,105,759			
S11	Perspective or view or opinion or perception or attitude	1,356,052			
S12	Reflect*	701,538			
S13	Experienc*	1,479,734			
S15	Advanc*	1,077,837			
S16	Specialist	143,691			
S17	Practitioner	204,169			
S19	Emergency room	123,318			
S20	Emergency department	30,183			

WEB OF SCIENCE

Code	Keywords	Results	Code	Combination	Results
S1	Nurs*	321,440	S8	S3 or S4 or S5 or S6 or S7	9,233,302
S2	Role	3,937,091	S18	S9 or S10 or S11 or S12 or S13 or S14 or 15 or 16 or 17	11,261,973
S3	Transition*	1,675,091	S22	S19 or S20 or S21	1,632,335
S4	Expand*	473,280	S25	S23 or S24	101,361
S5	Extend*	1,238,780	S26	S1 and S2 and S8 and S18 and S22 and S25	58
S6	Evolution*	1,609,397		Full-text and abstract available	58
S7	Change*	5,226,884			
S9	Evaluat*	5,388,916			
S10	Explor*	1,763,388			
S11	Perspective	911,411			
S12	View	1,034,438			
S13	Opinion	178,275			
S14	Perception	603,425			
S15	Attitude	380,125			
S16	Reflect*	1,429,756			
S17	Experienc*	1,801,576			
S19	Advanc*	1,347,589			
S20	Specialist	115,217			
S21	Practitioner	195,834			
S23	Emergency room	22,130			
S24	Emergency department	83,262			

Appendix 2: Summary of Included Studies

Authors (publication year) Population	Title	Type of paper	Methods	Type of Emergency Department	Role title used
Background search (n=24)					
Crinson (1995a) England	Impact of the patient's charter on A&E departments: 1	Primary research	Quantitative. Survey	Major A&E Department	Emergency Nurse Practitioner
Crinson (1995b) England	Impact of the patient's charter on A&E departments 2: the emergency nurse practitioner	Primary research	Quantitative. Survey	Major A&E Department	Emergency Nurse Practitioner
Shea and Selfridge-Thomas (1997) USA	The ED nurse practitioner: pearls and pitfalls of role transition and development	Reflection paper	N/A	Emergency Department Community-based Level II Trauma Centre (separate fast-track and acute areas)	Emergency Department Nurse Practitioner
Tye (1997) UK USA	The emergency nurse practitioner role in major accident and emergency department: professional issues and research agenda	Review	N/A	N/A	Emergency Nurse Practitioner

Authors (publication year)	Title	Type of paper	Methods	Type of Emergency Department	Role title used
Population					
Christofis (2001) UK USA Australia	Nurse practitioners: an exploration of the issues surrounding their role in Australian Emergency Department	Review	N/A	N/A	Emergency Nurse Practitioner; Advanced Practice Nurse
Marr et al. (2003) England	Mapping the range and scope of emergency nurse practitioner services in the Northern and Yorkshire Region: a telephone survey	Primary research	Quantitative. Survey	N/A	Emergency Nurse Practitioner
Norris and Melby (2005) Northern Ireland	The acute care nurse practitioner: challenging existing boundaries of emergency nurses in the United Kingdom	Primary research	Mixed method	Emergency Department and Minor Injury Unit (no information whether separated or joint)	Acute Care Nurse Practitioner
Considine et al. (2006) Australia	Defining the scope of practice of the emergency nurse practitioner in a metropolitan emergency department	Primary research	Quantitative. Cohort. Prospective exploratory design	Metropolitan Emergency Department	Emergency Nurse Practitioner

Authors (publication year) Population	Title	Type of paper	Methods	Type of Emergency Department	Role title used
Griffin and Melby (2006) Northern Ireland	Developing an advanced nurse practitioner service in emergency care: attitudes of nurses and doctors	Primary research	Quantitative. Survey	N/A	Advanced Nurse Practitioner
Cashin et al. (2007) Australia	Clinical initiative nurses and nurse practitioners in the emergency department: what's in a name?	Review	N/A	N/A	Clinical Initiative Nurse; Nurse Practitioners
Hudson and Marshall (2008) UK USA Australia	Extending the nursing role in Emergency Departments: Challenges for Australia	Review	N/A	N/A	Clinical Nurse Consultant; Clinical Nurse Specialist; Nurse Practitioner; Emergency Nurse Practitioner; Clinical Initiative Nurse; Advanced Clinical Nurse; Advanced Emergency Nursing Practice; Clinical Nurse Educator
Fry and Rogers (2009) Australia	The transitional emergency nurse practitioner role: implementation study and preliminary evaluation	Primary research	Mixed method	Urban Emergency Department	Transitional Emergency Nurse Practitioner
Keating et al. (2010)	Perceived barriers to the	Primary	Quantitative.	N/A	Emergency Nurse

Authors (publication year) Population	Title	Type of paper	Methods	Type of Emergency Department	Role title used
Australia	sustainability and progression of nurse practitioners	research	Survey		Practitioner
Lowe (2010) Australia	Scope of emergency nurse practitioner practice: where to beyond clinical practice guidelines?	Discussion paper	N/A	Metropolitan Emergency Department.	Emergency Nurse Practitioner
Emergency Nursing Association [ENA] (2011b) USA	Emergency nursing scope and standards of practice	Guideline	N/A	N/A	Nurse Practitioner; Clinical Nurse Specialist
Fotheringham et al. (2011) Scotland	The evolution of the role of the emergency nurse practitioner in Scotland: a longitudinal study	Primary research	Quantitative. Longitudinal survey	Emergency Department and Minor Injury Unit (joint)	Emergency Nurse Practitioner
Hodge et al. (2011) UK USA Australia	Revision and evaluation of an 'advanced' nursing role in an Australian emergency department	Review	N/A	N/A	Emergency Nurse Practitioner; Clinical Nurse Specialist; Advanced Practice Nurse; Nurse Consultant Transitional Nurse Practitioner; Clinical Nurse Consultant

Authors (publication year)	Title	Type of paper	Methods	Type of Emergency Department	Role title used
Population					
Melby et al. (2011) Northern Ireland	Emergency nurse practitioners: the views of patients and hospital staff at a major acute trust in the UK	Primary research	Mixed method	N/A	Emergency Nurse Practitioner
Hoskins (2011) UK USA Australia Canada	Evaluating new roles within emergency care: a literature review	Review	N/A	N/A	Emergency Nurse Practitioner
Hoskins (2012) N/A	Interprofessional working or role substitution? A discussion of emerging roles in emergency care	Review	N/A	N/A	Emergency Nurse Practitioner
Royal College of Nursing [RCN] (2013) UK	Advanced nurse practitioner: an RCN guide to advanced nursing practice, advanced nurse practitioners and programme accreditation	Guideline	N/A	N/A	Advanced nurse practitioners
College of Emergency Nursing Australasia [CENA] (2013)	Practice standards for the emergency nursing specialist	Guideline	N/A	N/A	Emergency Nurse Specialist
Bryson (2016)	How emergency department	Primary	Qualitative.	N/A	Acute Nurse Practitioner

Authors (publication year) Population	Title	Type of paper	Methods	Type of Emergency Department	Role title used
Scotland	staff perceive acute nurse practitioners	research	Interview.		who also carried out Emergency Nurse Practitioner roles
Lloyd-Rees (2016) England	How emergency practitioners view their role within the emergency department: a qualitative study	Primary research	Qualitative. Interview.	Urban Emergency Department	Emergency Nurse Practitioner
Second search (n=24)					
Tye and Ross (2000) England	Blurring boundaries: professional perspectives of the emergency nurse practitioner role in a major accident and emergency department	Primary research	Qualitative. Interview.	N/A	Emergency Nurse Practitioner
Schrivver et al. (2003) USA	Emergency nursing: historical, current, and future roles	Discussion paper	N/A	N/A	Emergency Nurse
Snyder et al. (2006) USA	From “first aid rooms” to advanced practice nursing: a glimpse into the history of emergency nursing	Discussion paper	N/A	N/A	Nurse Practitioner; Emergency Nurse Practitioner; Clinical Nurse Specialist
Carter and Chochinov (2007)	A systematic review of the impact of nurse practitioners	Systematic review	N/A	N/A	Nurse Practitioner

Authors (publication year) Population	Title	Type of paper	Methods	Type of Emergency Department	Role title used
UK USA Australia Canada	on cost, quality of care, satisfaction, and wait times in the emergency department				
Chung (2008) UK	Transition into an emergency nurse practitioner: a sharing of self-reflection	Reflection paper	N/A	N/A	Emergency Nurse Practitioner
Jennings et al. (2008) Australia	Evaluating outcomes of the emergency nurse practitioner role in a major urban emergency department, Melbourne, Australia	Primary research	Case series	Major Urban Emergency Department: Level One Trauma Centre.	Emergency Nurse Practitioner
Colligan et al. (2011) New Zealand	Emergency nurse practitioners: do they provide an effective service in managing minor injuries, compared to emergency medicine registrars?	Primary research	Prospective observational audit of a non- consecutive cohort	Urban Emergency Department	Emergency Nurse Practitioner
Dinh et al. (2012) Australia	Evaluating the quality of care delivered by an emergency department fast track unit with both nurse-practitioners and	Primary research	Quantitative. Observational	Emergency Department Fast- Track Unit (suburb)	Emergency Nurse Practitioner

Authors (publication year) Population	Title	Type of paper	Methods	Type of Emergency Department	Role title used
	doctors				
Thompson and Meskell (2012) Republic of Ireland	Evaluation of an advanced nurse practitioner (emergency care) – an Irish perspective	Primary research	Quantitative. Retrospective, comparative audit	N/A	Advanced Nurse Practitioner
McClellan et al. (2013) England	A randomised trial comparing the cost effectiveness of different emergency department healthcare professionals in soft tissue injury management	Primary research	Quantitative. Randomised pragmatic trial	N/A	Emergency Nurse Practitioner
Innes et al. (2015) Australia	Care of patients in emergency department waiting rooms – an integrative review	Integrative review	N/A	N/A	Clinical Initiative Nurse
Jennings et al. (2015a) UK USA Australia New Zealand Netherland Canada	The impact of nurse practitioner services on cost, quality of care, satisfaction and waiting times in the emergency department: a systematic review	Systematic review	N/A	N/A	Emergency Nurse Practitioner

Authors (publication year) Population	Title	Type of paper	Methods	Type of Emergency Department	Role title used
Jennings et al. (2015b) Australia	Evaluating emergency nurse practitioner service effectiveness on achieving timely analgesia: a pragmatic randomised controlled trial	Primary research	Quantitative. Pragmatic randomised controlled trial	Adult tertiary ED of a referral hospital.	Emergency Nurse Practitioner
Steiner et al. (2015) Canada	Impact of a nurse practitioner on patient care in Canadian emergency department	Primary research	Quantitative. Prospective observational	Urban community emergency department	Nurse Practitioner
Health Education England [HEE] (2017) England	Multi-professional framework for advanced clinical practice in England	Guideline	N/A	N/A	Advanced Clinical Practitioner
Roche et al. (2017) Australia	The effectiveness of emergency nurse practitioner service in the management of patients presenting to rural hospitals with chest pain: a multisite prospective longitudinal nested cohort study	Primary research	Quantitative. Prospective longitudinal nested cohort study	Rural Emergency Department	Emergency Nurse Practitioner
Karanikola et al. (2017)	Perception of critical and emergency department nurses regarding changes in	Primary research	Qualitative. Focus-group	N/A	Emergency Nurse

Authors (publication year) Population	Title	Type of paper	Methods	Type of Emergency Department	Role title used
Greece	their professional role				
Woo et al. (2017) New Zealand Australia Canada	The impact of advanced practice nursing role on quality of care, clinical outcomes, patient satisfaction, and cost in the emergency and critical care settings: a systematic review	Systematic review	N/A	N/A	Nurse Practitioner
Bagley (2018) Scotland	Exploring emergency nurse practitioners' perceptions of their role	Primary research	Qualitative. Interview	Emergency Department and Nurse-led Minor Injury Unit (separated)	Emergency Nurse Practitioner
Boman et al. (2018) Norwegia	Nurses' understanding of a developing nurse practitioner role in the Norwegian emergency care context: A qualitative study	Primary research	Qualitative. Interview	N/A	Nurse Practitioner
Fox et al. (2018) Australia	Nursing service innovation: a case study examining emergency nurse practitioner service sustainability	Primary research	Case study	Urban Emergency Department	Emergency Nurse Practitioner
Canadian Nurses Association [CNA]	Advanced practice nursing: a pan-Canadian framework	Guideline	N/A	N/A	Clinical Nurse Specialist

Authors (publication year) Population	Title	Type of paper	Methods	Type of Emergency Department	Role title used
(2019) Canada					
Trisyani and Windsor (2019) Indonesia	Expanding knowledge and roles for authority and practice boundaries of emergency department nurses: a grounded theory study	Primary research	Qualitative Observation Interview	Emergency department of general hospital	Emergency Nurse
International Council of Nurses [ICN] (2020) N/A	Guidelines on Advanced Practice Nursing	Guideline	N/A	N/A	Nurse Practitioner; Clinical Nurse Specialist

Appendix 3: Ethical Approval University of Edinburgh



Ref: NURS030

Arcellia Farosyah Putri
Nursing Studies
University of Edinburgh
Medical School
Teviot Place
Edinburgh
EH8 9AG

SCHOOL OF HEALTH IN SOCIAL SCIENCE
The University of Edinburgh
Doorway 6
Medical Quad
Teviot Place
Edinburgh
EH8 9AG

28 March 2018

E-mail: Susanne.Kean@ed.ac.uk Tel: 0131 651 1983
E-mail: Sarah.Rhynas@ed.ac.uk Tel: 0131 650 3882

Fax: 0131 650 3891

Dear Arcellia,

APPLICATION FOR LEVEL 2/3/4 APPROVAL

**PROJECT TITLE: EXPLORING CONTRIBUTORY FACTORS TOWARDS EMERGENCY NURSES' ROLES IN AN
INDONESIAN EMERGENCY DEPARTMENT**

Thank you for submitting the above research project for review by the Section of Nursing Studies Ethics Research Panel.

I can confirm that the submission has been independently reviewed and was approved on March 27th 2018.

Should there be any further changes to the research protocol, it is important that you alert us to this as this may necessitate further review.

Yours sincerely

Susanne Kean
Researcher/Lecturer
Nursing Studies

Sarah J Rhynas
Teaching Fellow
Nursing Studies

The University of Edinburgh is a charitable body, registered in Scotland, with registration number SC005336

Appendix 4: Ethical Approval University of Indonesia



UNIVERSITAS INDONESIA
FAKULTAS KEDOKTERAN

Gedung Fakultas Kedokteran UI
Jl. Salemba Raya No.6, Jakarta 10430
PO.Box 1358
T. 62.21.3912477, 31930371, 31930373,
3922977, 3927360, 3153236
F. 62.21.3912477, 31930372, 3157288
E. humas@fk.ui.ac.id, office@fk.ui.ac.id
fk.ui.ac.id

Nomor : 0105 / UN2.F1/ETIK/2018

KETERANGAN LOLOS KAJI ETIK

ETHICAL APPROVAL

Komite Etik Penelitian Kesehatan Fakultas Kedokteran Universitas Indonesia dalam upaya melindungi hak asasi dan kesejahteraan subyek penelitian kedokteran, telah mengkaji dengan teliti protokol berikut informasi yang diberikan kepada calon subjek yang berjudul:

The Ethics Committee of the Faculty of Medicine, University of Indonesia, with regards of the Protection of human rights and welfare in medical research, has carefully reviewed the research protocol including the information given to the potential subjects entitled:

"Eksplorasi Faktor-faktor yang Berkontribusi terhadap Peran Perawat Gawat Darurat".
No. protokol: 18-02-0102

Peneliti Utama : **Ns. Arcellia Farosyah Putri, S.Kep., MSc**
Principal Investigator

Nama Institusi : **Nursing Studies, School of Health in Social Science,**
Name of the Institution **The University of Edinburgh**

dan telah menyetujui protokol berikut informasi yang diberikan kepada calon subjek.
and approves the above mentioned protocol including the information given to the potential subjects.



05 FEB 2018
Ketua
Chairman

Prof. Dr. dr. Rianto Setiabudy, SpFK

* *Ethical approval* berlaku satu tahun dari tanggal persetujuan.

** Peneliti berkewajiban

1. Menjaga kerahasiaan identitas subyek penelitian.
2. Memberitahukan status penelitian apabila
 - a. Setelah masa berlakunya keterangan lolos kaji etik, penelitian masih belum selesai, dalam hal ini *ethical approval* harus diperpanjang.
 - b. Penelitian berhenti di tengah jalan.
3. Melaporkan kejadian serius yang tidak diinginkan (*serious adverse events*).
4. Peneliti tidak boleh melakukan tindakan apapun pada subyek sebelum protokol penelitian mendapat lolos kaji etik dan sebelum memperoleh *informed consent* dari subyek penelitian.
5. Menyampaikan laporan akhir, bila penelitian sudah selesai.
6. Cantumkan nomor protokol ID pada setiap komunikasi dengan KEPK FKUI-RSCM.

Semua prosedur persetujuan dilakukan sesuai dengan standar ICH-GCP.
All procedure of Ethical Approval are performed in accordance with ICH-GCP standard procedure.

Appendix 5: Information Sheet and Informed Consent

IN ENGLISH

INTERVIEW

Participation Information Sheet (Nurses)



SCHOOL of HEALTH in SOCIAL SCIENCE

The University of Edinburgh
Medical School
Doorway 6, Teviot Place
Edinburgh EH8 9AG

Phone 0131 651 3969
Fax 0131 650 3891

Email: health.school@ed.ac.uk

Arcellia Farosyah Putri, an Indonesian scholar who is currently studying for a doctorate in nursing at the University of Edinburgh, is undertaking this research. I would like to invite you to take part in the study. I would like you to understand why the study is being done and what it would involve you before you decide. **I will go through the information sheet with you and answer any questions you have.**

What is the aim of the study?

This study aims to explore factors that contribute to emergency nurses' roles in the Indonesian emergency department.

Why have I been invited?

You have been invited because you are a nurse who has worked in an emergency area including resuscitation room, triage room, trauma unit, and urgent/non-urgent unit. I would like to invite you to participate in this study because you have experience in and understanding of nurses providing health care service in an emergency department.

What is the data being collected?

The interview will discuss your perceptions, expectation, and understanding of emergency nurses' roles in an emergency team and emergency care service provision within the emergency department.

Do I have to take part?

No. Your participation in this study is voluntary and non-participation will not have any consequences for you.

What will happen if I agree to participate?

If you do agree to participate, we will arrange an interview date and time. I will also ask you to sign a consent form. The nature of the interviews will be as follows:

- The interview will be conducted according to your convenient time and place.
- The interview will be audio recorded and take approximately 45 – 60 minutes.
- The interview will be transcribed for data analysis and I may invite you to a second interview to clarify or to obtain more information in relation to some key points.
- Should a second interview be deemed necessary and you agree to participate in one, this will be conducted at least one month after the first interview.

What will happen if I do not want to continue my participation?

You can withdraw at any time from this research participation without comment or any disadvantages consequences.

What are the possible benefits of taking part?

Participation in this study will not result in direct benefits for you. However, this study aims at providing a better understanding of emergency nurse' roles in a level IV emergency department and therefore may provide you with some useful insights in that regard. Your involvement in the study will give valuable contribution to better understand emergency nurses' roles.

What are the possible risks of taking part?

There is no risk. However, should you experience a sense of discomfort at any time during the interview, please alert the researcher who will stop the interview. Should you decide to discontinue your participation at that time your decision will be respected. If you feel comfortable to continue the interview, we will proceed with the interview or arrange an alternative time. Moreover, psychological support will be

offered as necessary based on hospital's counselling service policy. The researcher will make sure that all participants have access to use the service whenever needed.

Will my taking part in the study be kept confidential?

Yes. The researcher will make sure that any information shared by you that may lead to disclosure of your identity, will be anonymised and will not appear in any written document. All participants' names will be pseudonymised.

What happens to the information?

All gathered information including consent forms will be kept in a secure location with access permitted only to the researcher and then will be destroyed (at the end of the study period, at least seven years). Similarly, any electronic records will be treated confidentially and securely stored in an encrypted password protected University of Edinburgh DataStore to which only the researcher has accessed.

The findings will be made available in form of an executive summary with recommendation and this will be distributed to the hospital and all involved parties. No identifiable details will be contained in this document. The finding of this research will also be published in peer reviewed research journals so that relevant professionals have access to the findings of this research. Only pseudonyms will be used in any publication where data from interviews are used as evidence.

What should I do if I have further questions?

Please do not hesitate to contact the researcher; Arcellia Farosyah Putri either by mobile phone +6285772886145 or by email arcel_farosy@yahoo.com if you require further information regarding the research.

Who should I contact if I have concerns or complaints regarding the conduct of the research?

The University of Edinburgh is committed to researcher integrity and the ethical conduct of research studies. However, if you do have any complaints regarding the study you may contact the head of the school of health in social science, Professor Charlotte Clarke at hos.health@ed.ac.uk

INTERVIEW

Participation Information Sheet (Physicians)



SCHOOL of HEALTH in SOCIAL SCIENCE

The University of Edinburgh
Medical School
Doorway 6, Teviot Place
Edinburgh EH8 9AG

Phone 0131 651 3969
Fax 0131 650 3891

Email: health.school@ed.ac.uk

Arcellia Farosyah Putri, an Indonesian scholar who is currently studying for a doctorate in nursing at the University of Edinburgh, is undertaking this research. I would like to invite you to take part in the study. I would like you to understand why the study is being done and what it would involve you before you decide. **I will go through the information sheet with you and answer any questions you have.**

What is the aim of the study?

This study aims to explore factors that contribute to emergency nurses' roles in the Indonesian emergency department.

Why have I been invited?

You have been invited because you work collaboratively with nurses in an emergency area including resuscitation room, triage room, trauma unit, and urgent/non-urgent unit. I would like to invite you to participate in this study because you have experience in and understanding of nurses providing health care service as a part of an emergency team.

What is the data being collected?

The interview will discuss your perceptions, expectation, and understanding of emergency nurses' roles in an emergency team and emergency care service provision within the emergency department.

Do I have to take part?

No. Your participation in this study is voluntary and non-participation will not have any consequences for you.

What will happen if I agree to participate?

If you do agree to participate, we will arrange an interview date and time. I will also ask you to sign a consent form. The nature of the interviews will be as follows:

- The interview will be conducted according to your convenient time and place.
- The interview will be audio recorded and take approximately 45 – 60 minutes.
- The interview will be transcribed for data analysis and I may invite you to a second interview to clarify or to obtain more information in relation to some key points.
- Should a second interview be deemed necessary and you agree to participate in one, this will be conducted at least one month after the first interview.

What will happen if I do not want to continue my participation?

You can withdraw at any time from this research participation without comment or any disadvantages consequences.

What are the possible benefits of taking part?

Participation in this study will not result in direct benefits for you. However, this study aims at providing a better understanding of emergency nurse' roles in a level IV emergency department and therefore may provide you with some useful insights in that regard. Your involvement in the study will give a valuable contribution to better understand the nurse-physician collaborative working practices in the emergency team within all emergency units.

What are the possible risks of taking part?

There is no risk. However, should you experience a sense of discomfort at any time during the interview, please alert the researcher who will stop the interview. Should you decide to discontinue your participation at that time your decision will be respected. If you feel comfortable to continue the interview, we proceed with the interview or arrange an alternative time. Moreover, psychological support will be

offered as necessary based on hospital's counselling service policy. The researcher will make sure that all participants have access to use the service whenever needed.

Will my taking part in the study be kept confidential?

Yes. The researcher will make sure that any information shared by you that may lead to disclosure of your identity, will be anonymised and will not appear in any written document. All participants' names will be pseudonymised.

What happens to the information?

All gathered information including consent forms will be kept in a secure location with access permitted only to the researcher and then will be destroyed (at the end of the study period, at least seven years). Similarly, any electronic records will be treated confidentially and securely stored in an encrypted password protected University of Edinburgh DataStore to which only the researcher has accessed.

The findings will be made available in form of an executive summary with recommendation and this will be distributed to the hospital and all involved parties. No identifiable details will be contained in this document. The finding of this research will also be published in peer reviewed research journals so that relevant professionals have access to the findings of this research. Only pseudonyms will be used in any publication where data from interviews are used as evidence.

What should I do if I have further questions?

Please do not hesitate to contact the researcher: Arcellia Farosyah Putri either by mobile phone +6285772886145 or by email arcel_farosy@yahoo.com if you require further information regarding the research.

Who should I contact if I have concerns or complaints regarding the conduct of the research?

The University of Edinburgh is committed to researcher integrity and the ethical conduct of research studies. However, if you do have any complaints regarding the study you may contact the head of the school of health in social science, Professor Charlotte Clarke at hos.health@ed.ac.uk

INTERVIEW
Participation Information Sheet
(Hospital Managers and Organisation Representatives)



SCHOOL of HEALTH in SOCIAL SCIENCE

The University of Edinburgh
Medical School
Doorway 6, Teviot Place
Edinburgh EH8 9AG

Phone 0131 651 3969
Fax 0131 650 3891

Email: health.school@ed.ac.uk

Arcellia Farosyah Putri, an Indonesian scholar who is currently studying for a doctorate in nursing at the University of Edinburgh, is undertaking this research. I would like to invite you to take part in the study. I would like you to understand why the study is being done and what it would involve you before you decide. **I will go through the information sheet with you and answer any questions you have.**

What is the aim of the study?

This study aims to explore factors that contribute to emergency nurses' roles in the Indonesian emergency department.

Why have I been invited?

You have been invited because your scope of work/policy/practice has a close relation to emergency nursing within level IV emergency department. I would like to invite you to participate in this study because you have understanding of current and future trajectory of emergency nursing practice in emergency service system.

What is the data being collected?

The interview will discuss your perceptions, expectation, and understanding of emergency nurses' roles in an emergency team and emergency care service provision within the emergency department. As well as factors in system/macro level that may contribute to the roles.

Do I have to take part?

No. Your participation in this study is voluntary and non-participation will not have any consequences for you.

What will happen if I agree to participate?

If you do agree to participate, we will arrange an interview date and time. I will also ask you to sign a consent form. The nature of the interviews will be as follows:

- The interview will be conducted according to your convenient time and place.
- The interview will be audio recorded and take approximately 45 – 60 minutes.
- The interview will be transcribed for data analysis and I may invite you to a second interview to clarify or to obtain more information in relation to some key points.
- Should a second interview be deemed necessary and you agree to participate in one, this will be conducted at least one month after the first interview.

What will happen if I do not want to continue my participation?

You can withdraw at any time from this research participation without comment or any disadvantages consequences.

What are the possible benefits of taking part?

Participation in this study will not result in direct benefits for you. However, this study aims at providing a better understanding of emergency nurse' roles in a level IV emergency department and therefore may provide you with some useful insights in that regard. Your involvement in the study will give valuable contribution to involved parties regarding macro/micro level contributory factors towards emergency nurses' roles. Your contribution will support the quality of emergency care services to the community.

What are the possible risks of taking part?

There is no risk. However, should you experience a sense of discomfort at any time during the interview, please alert the researcher who will stop the interview. Should you decide to discontinue your participation at that time your decision will be respected. If you feel comfortable to continue the interview, we proceed with the

interview or arrange an alternative time. Moreover, psychological support will be offered as necessary based on hospital's counselling service policy. The researcher will make sure that all participants have access to use the service whenever needed.

Will my taking part in the study be kept confidential?

Yes. The researcher will make sure that any information shared by you that may lead to disclosure of your identity, will be anonymised and will not appear in any written document. All participants' names will be pseudonymised

What happens to the information?

All gathered information including consent forms will be kept in a secure location with access permitted only to the researcher and then will be destroyed (at the end of the study period, at least seven years). Similarly, any electronic records will be treated confidentially and securely stored in an encrypted password protected University of Edinburgh DataStore to which only the researcher has accessed.

The findings will be made available in form of an executive summary with recommendation and this will be distributed to the hospital and all involved parties. No identifiable details will be contained in this document. The finding of this research will also be published in peer reviewed research journals so that relevant professionals have access to the findings of this research. Only pseudonyms will be used in any publication where data from interviews are used as evidence.

What should I do if I have further questions?

Please do not hesitate to contact the researcher: Arcellia Farosyah Putri either by mobile phone +6285772886145 or by email arcel_farosy@yahoo.com if you require further information regarding the research.

Who should I contact if I have concerns or complaints regarding the conduct of the research?

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OBSERVATION

Participation Information Sheet



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Phone 0131 651 3969
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Email: health.school@ed.ac.uk

Arcellia Farosyah Putri, an Indonesian scholar who is currently studying for a doctorate in nursing at the University of Edinburgh, is undertaking this research. I would like to invite you to take part in the study. I would like you to understand why the study is being done and what it would involve you before you decide. **I will go through the information sheet with you and answer any questions you have.**

What is the aim of the study?

This study aims to explore factors that contribute to emergency nurses' roles in the Indonesian emergency department.

Why have I been involved?

The involvement of this study will be based on a shift hour and an area under period of observation. You have been invited because you have worked as and within a team in an emergency area including resuscitation room, triage room, trauma unit, and urgent/non-urgent unit.

What is the data being collected?

The observation will include observing interactions and daily activities whilst delivering emergency care within the emergency team.

Do I have to take part?

No. Your participation in this study is voluntary and non-participation will not have any consequences for you.

What will happen if I agree to participate?

If you do agree to participate, we will arrange the observation date and time. I will also ask you to sign a consent form. The nature of the observation will be as follows:

- The observation will focus on the daily activities of nurses and physicians working in emergency care settings include triage room, resuscitation room, trauma unit, and urgent/non-urgent room.
- The observation will be focused on the interaction as a team, as well as professional contributions within a team. None of the name of nurses or physicians will be recorded.
- The observation will be conducted during busy and less busy times of the emergency department.
- Participative observation will be conducted which means that I will participate in some tasks. The degree of the researcher's involvement in this study will follow the hospital policy and guideline.

What will happen if I do not want to continue my participation?

You can withdraw at any time from this research participation without comment or any disadvantages consequences.

What are the possible benefits of taking part?

Participation in this study will not result in direct benefits for you. However, this study aims at providing a better understanding of emergency nurse' roles in a level IV emergency department and therefore may provide you with some useful insights in that regard. Through observation of the daily clinical activity and interaction, this will provide a better understanding of collaborative work between emergency nurses and physicians in everyday settings within level IV emergency department.

What are the possible risks of taking part?

There is no risk. However, if you experience a sense of discomfort at being observed, please alert the researcher who will stop the observation. Should you decide to discontinue your participation at that time your decision will be respected. If you feel comfortable to continue the observation, we will proceed with the observation or arrange an alternative time. Moreover, psychological support will be offered as necessary based on hospital's counselling service policy. The researcher

will make sure that all participants have access to use the service whenever needed.

Will my taking part in the study be kept confidential?

Yes. No personal details of nurses and physicians will be recorded. The researcher will make sure that any information shared by you that may lead to disclosure of your identity, will be anonymised and will not appear in any written document. All participants' names will be pseudonymised.

What happens to the information?

All gathered information including consent forms will be kept in a secure location with access permitted only to the researcher and then will be destroyed (at the end of the study period, at least seven years). Similarly, any electronic records will be treated confidentially and securely stored in an encrypted; password protected University of Edinburgh DataStore to which only the researcher has accessed.

The findings will be made available in form of an executive summary with recommendation and this will be distributed to the hospital and all involved parties. No identifiable details will be contained in this document. The finding of this research will also be published in peer reviewed research journals so that relevant professionals have access to the findings of this research. Only pseudonyms will be used in any publication where data from interviews are used as evidence.

What should I do if I have further questions?

Please do not hesitate to contact the principal investigator; Arcellia Farosyah Putri either by mobile phone +6285772886145 or by email arcel_farosy@yahoo.com if you require further information regarding the research.

Who should I contact if I have concerns or complaints regarding the conduct of the research?

The University of Edinburgh is committed to researcher integrity and the ethical conduct of research studies. However, if you do have any complaints regarding the study you may contact the head of the school of health in social science, Professor Charlotte Clarke at hos.health@ed.ac.uk

INTERVIEW Consent Form



SCHOOL of HEALTH in SOCIAL SCIENCE

The University of Edinburgh
Medical School
Doorway 6, Teviot Place
Edinburgh EH8 9AG

Phone 0131 651 3969
Fax 0131 650 3891

Email: health.school@ed.ac.uk

If you agree to participate please complete and sign the consent form below

**Please
initial
box**

Taking Part

I have read and understood the project information sheet dated DD/MM/YYYY.

I have been given the opportunity to ask questions about the study.

I agree to take part in the study.

I agree to be interviewed and give permission for the audio recording.

I understand that if I have any further questions about the study, I can contact the researcher: Arcellia Farosyah Putri.

I understand that if I have concerns or complaints regarding the study, I can contact the head of the school of health in social science.

I understand that my taking part is voluntary. I can withdraw from the study at any time without comment or penalty.

Use of the information I provide for this project only

I understand that my personal details such as name and phone number will not be revealed. All personal identifiers will be anonymised and pseudonymised and all data in this study will be handled so as to protect my confidentiality.

I understand that sections of my interview data may be quoted in publications, reports, web pages, and other research outputs but that I will not be identified at any point.

I understand that only the researcher will have access to the raw data for the purpose of data analysis process.

Use of the information I provide beyond this project

I understand that executive summary of recommendation from this study will be distributed to the hospital and involved parties but any quotations from my interview will be anonymised and I will be only referred by my given

pseudonym in the document.

☐

So, the researcher can use the information you provide legally

I agree to assign the copyright I hold in any materials related to this study to the researcher: Arcellia Farosyah Putri.

☐

Name of participant [printed]

Signature

Date

OBSERVATION Consent Form



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Email: health.school@ed.ac.uk

If you agree to participate please complete and sign the consent form below

**Please
initial
box**

Taking Part

I have read and understood the study information sheet dated DD/MM/YYYY.

I have been given the opportunity to ask questions about the study.

I agree to take part in the study.

I give permission to be observed during my working shift and within the area under my responsibility.

I understand that if I have any further questions about the study, I can contact the researcher: Arcellia Farosyah Putri.

I understand that if I have concerns or complaints regarding the study, I can contact the head of the school of health in social science.

I understand that my taking part is voluntary. I can withdraw from the study at any time without comment or penalty.

Use of the information I provide for this project only

I understand that the observation will focus on the daily activity and interaction as a team, as well as professional contributions within a team. No names will be recorded. My personal details such as name, phone number, and address are confidential and will not be revealed at any time.

I understand that data from the observation may be used in publications, reports, web pages, and other research outputs.

Use of the information I provide beyond this project

I understand that executive summary of recommendation from this study will be distributed to the hospital and involved parties, but my name will be anonymised, and I will only be referred to by my given pseudonym in the document.

So, the researcher can use the information you provide legally

I agree to assign the copyright I hold in any materials related to this study to the researcher: Arcellia Farosyah Putri.

☐

Name of participant [printed]

Signature

Date

INFORMATION SHEET AND INFORMED CONSENT IN BAHASA

WAWANCARA

Lembar Informasi Partisipan (Perwakilan Organisasi Profesi)



SCHOOL of HEALTH in SOCIAL SCIENCE

The University of Edinburgh
Medical School
Doorway 6, Teviot Place
Edinburgh EH8 9AG

Phone 0131 651 3969
Fax 0131 650 3891

Email: health.school@ed.ac.uk

Penelitian ini akan dilaksanakan oleh Arcellia Farosyah Putri, seorang mahasiswi asal Indonesia yang saat ini sedang melanjutkan kuliah Doktoral (S3) Keperawatan di the University of Edinburgh. Saya ingin memohon bantuan Bapak/Ibu untuk berpartisipasi dalam penelitian ini. Saya ingin memberikan informasi mengenai penelitian ini, sebelum Bapak/Ibu memutuskan keikutsertaan Bapak/Ibu. Saya akan menjelaskan semua informasi yang terdapat pada lembar ini dan menjawab pertanyaan dari Bapak/Ibu.

Apakah tujuan penelitian ini?

Penelitian ini bertujuan untuk mendapatkan pemahaman lebih dalam dan menyeluruh tentang faktor-faktor yang berkontribusi terhadap peran perawat di Instalasi Gawat Darurat pada rumah sakit tipe A (IGD level IV).

Mengapa Bapak/Ibu diminta untuk berpartisipasi?

Bapak/Ibu dimohon untuk berpartisipasi dalam penelitian ini karena lingkup kerja/kebijakan/praktik Bapak/Ibu berhubungan dengan keperawatan gawat darurat pada IGD level IV. Saya meminta bantuan Bapak/Ibu untuk berpartisipasi dalam penelitian ini karena Bapak/Ibu memiliki pemahaman terkait praktik keperawatan gawat darurat pada sistem pelayanan gawat darurat saat ini dan arah pengembangan di masa mendatang.

Apa saja pertanyaan dalam wawancara ini?

Pertanyaan wawancara berkaitan dengan persepsi, harapan, dan pemahaman tentang peran perawat dalam sebuah tim gawat darurat dan pada pelayanan gawat darurat di IGD. Serta faktor-faktor di tingkat makro/sistem yang mungkin berkontribusi terhadap peran perawat tersebut.

Apakah Bapak/Ibu harus berpartisipasi?

Tidak. Partisipasi Bapak/Ibu dalam penelitian ini bersifat sukarela. Tidak ada konsekuensi apa pun, jika Bapak/Ibu menolak untuk berpartisipasi.

Bagaimana jika Bapak/Ibu setuju untuk berpartisipasi?

Jika Bapak/Ibu setuju untuk berpartisipasi, maka saya akan meminta Bapak/Ibu untuk menandatangani lembar persetujuan. Proses wawancara akan berlangsung sebagai berikut:

- Wawancara akan dilaksanakan sesuai dengan ketersediaan waktu dan kesediaan tempat Bapak/Ibu.
- Wawancara akan direkam dan berlangsung sekitar 45 – 60 menit.
- Hasil wawancara akan dibuat transkrip untuk selanjutnya dianalisis dan saya mungkin akan membutuhkan wawancara ke dua untuk mengklarifikasi atau mendapatkan informasi lebih lanjut terkait hal-hal penting lainnya.
- Jika wawancara ke dua dibutuhkan dan Bapak/Ibu setuju untuk berpartisipasi, wawancara ini akan dilakukan paling cepat 1 bulan setelah wawancara pertama dilakukan.

Bagaimana jika Bapak/Ibu ingin berhenti berpartisipasi?

Bapak/Ibu dapat berhenti berpartisipasi dalam penelitian ini kapan pun tanpa memberikan alasan atau tanpa konsekuensi apa pun.

Apa manfaat yang mungkin diperoleh jika berpartisipasi?

Partisipasi dalam penelitian ini tidak akan memberikan manfaat langsung bagi Bapak/Ibu. Tetapi, penelitian ini bertujuan untuk memberikan pemahaman lebih baik terkait peran perawat gawat darurat di IGD level IV. Sehingga mungkin dapat memberikan internalisasi yang bermanfaat terkait hal tersebut. Partisipasi Bapak/Ibu dalam penelitian ini akan memberikan kontribusi berharga terhadap pihak-pihak terkait tentang faktor-faktor di tingkat makro/meso/mikro yang mungkin berkontribusi

terhadap peran perawat gawat darurat. Partisipasi Bapak/Ibu akan mendukung kualitas pelayanan gawat darurat bagi masyarakat.

Adakah risiko bahaya potensial yang akan dialami jika berpartisipasi?

Tidak ada. Tetapi jika Bapak/Ibu mengalami rasa tidak nyaman selama wawancara, mohon memberitahukan peneliti yang akan menghentikan wawancara. Jika Bapak/Ibu memutuskan untuk berhenti berpartisipasi dalam penelitian ini, keputusan Bapak/Ibu akan saya hormati. Jika Bapak/Ibu merasa nyaman untuk melanjutkan wawancara, saya akan melanjutkan wawancara atau mencari waktu lain yang sesuai dengan Bapak/Ibu. Selain itu, peneliti akan menawarkan layanan psikologis yang tersedia dan memastikan semua partisipan memiliki akses untuk menggunakan layanan tersebut kapan pun ketika dibutuhkan.

Apakah partisipasi Bapak/Ibu dalam penelitian ini akan dirahasiakan?

Ya. Peneliti akan memastikan informasi yang mungkin akan membuka identitas Bapak/Ibu akan dihilangkan dan tidak akan muncul pada dokumen tertulis mana pun. Semua nama partisipan akan disamarkan.

Apa yang akan terjadi dengan informasi yang Bapak/Ibu berikan?

Semua informasi dalam bentuk cetak termasuk lembar persetujuan akan disimpan di tempat yang aman. Hanya peneliti yang memiliki akses terhadap informasi yang Bapak/Ibu berikan. Untuk kemudian akan dihancurkan (pada akhir studi doctoral, minimal tujuh tahun). Data elektronik juga akan diperlakukan secara rahasia dan akan disimpan secara aman pada University of Edinburgh DataStore yang terenkripsi dan terlindung kata kunci, hanya peneliti yang memiliki akses.

Hasil dari penelitian ini akan didistribusikan dalam bentuk *executive summary* kepada rumah sakit serta instansi dan organisasi profesi yang berpartisipasi. Tidak ada detail partisipan yang terdapat dalam dokumen tersebut. Hasil penelitian ini juga akan dipublikasikan di jurnal penelitian *peer reviewed*, sehingga para profesional relevan lain dapat mengakses hasil penelitian ini. Jika data wawancara dalam bentuk kutipan digunakan pada publikasi mana pun, maka nama partisipan akan disamarkan.

Siapa yang dapat Bapak/Ibu hubungi jika ada pertanyaan lebih lanjut?

Dipersilakan untuk menghubungi peneliti; Arcellia Farosyah Putri melalui *mobile phone* +6281586285193 atau melalui *email* arcel.farosy@yahoo.com jika Bapak/Ibu membutuhkan informasi lebih lanjut terkait penelitian ini.

Siapa yang dapat Bapak/Ibu hubungi jika ada keluhan terkait jalannya penelitian?

The University of Edinburgh berkomitmen terhadap integritas peneliti dan etika penelitian. Tetapi jika Bapak/Ibu memiliki keluhan terkait penelitian ini, Bapak/Ibu dipersilakan untuk menghubungi *the head of the school of health in social science*, Professor Charlotte Clarke melalui email hos.health@ed.ac.uk

WAWANCARA

Lembar Persetujuan



SCHOOL of HEALTH in SOCIAL SCIENCE

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Jika Bapak/Ibu setuju untuk berpartisipasi dimohon untuk mengisi dan menandatangani lembar di bawah ini

**Paraf/
inisial
nama**

Berpartisipasi

Saya telah membaca dan memahami lembar informasi partisipan tanggal _____

Saya diberi kesempatan untuk bertanya mengenai penelitian

Saya setuju untuk berpartisipasi dalam penelitian.

Saya setuju untuk diwawancarai dan memberikan izin perekaman audio.

Saya tahu bahwa jika saya memiliki pertanyaan lebih lanjut terkait penelitian saya bisa menghubungi peneliti: Arcellia Farosyah Putri.

Saya tahu bahwa jika saya memiliki complain tentang penelitian ini saya bisa menghubungi *the head of the school of health in social science*.

Saya tahu bahwa partisipasi dalam penelitian ini bersifat sukarela. Saya dapat berhenti dari keikutsertaan saya kapan pun tanpa memberikan alasan atau terkena penalti.

Penggunaan informasi untuk penelitian

Saya tahu bahwa informasi pribadi saya akan dirahasiakan, *anonymised* dan *pseudonymised*. Data yang didapat akan diperlakukan secara khusus untuk melindungi kerahasiaan partisipan.

Saya tahu bahwa sebagian dari data hasil wawancara mungkin saya akan ditulis dalam publikasi jurnal atau output penelitian lainnya tetapi informasi pribadi serta data diri saya akan dirahasiakan.

Saya paham bahwa hanya peneliti yang memiliki akses terhadap data mentah dan hanya akan digunakan untuk kepentingan analisis data penelitian.

Penggunaan informasi diluar penelitian

Saya tahu bahwa rekomendasi penelitian dalam bentuk *executive summary* akan diberikan kepada rumah sakit dan pihak-pihak yang terlibat tetapi jika terdapat penggalan data wawancara maka akan ditulis menggunakan *anonymised* dan *pseudonym*.

Peneliti dapat menggunakan informasi yang Bapak/Ibu berikan secara legal

Saya setuju untuk memberikan hak penggunaan informasi terkait penelitian ini kepada peneliti: Arcellia Farosyah Putri.

Nama Partisipan

[printed]

Tandatangan

Tanggal

**INFORMATION SHEET AND INFORMED CONSENT IN BAHASA
(HOSPITAL FORMAT)**



RSUPN Dr. Cipto Mangunkusumo

Jl. Diponegoro No. 71 Jakarta 10430
Telp: (021) 3918301 Fax: (021) 3148991

NRM :
Nama :
Jenis Kelamin :
Tanggal lahir :
(Mohon diisi atau tempelkan stiker jika ada)

FORMULIR PERSETUJUAN MENGIKUTI PENELITIAN (FORMULIR INFORMED CONSENT)			
Peneliti Utama		: Arcellia Farosyah Putri	
Pemberi informasi		: Arcellia Farosyah Putri	
Penerima informasi			
Nama Subyek		:	
Tanggal Lahir (Umur)		:	
Jenis Kelamin		:	
Alamat		:	
No. Telp (HP)		:	
No.	JENIS INFORMASI	ISI INFORMASI	TANDAI
1.	Judul Penelitian	Eksplorasi faktor-faktor yang berkontribusi terhadap peran perawat gawat darurat	
2.	Tujuan Penelitian	Mendapatkan pemahaman lebih dalam dan menyeluruh tentang factor-faktor yang berkontribusi terhadap peran perawat emergensi di IGD	
3.	Cara dan Prosedur Penelitian	Yth. Bapak/Ibu pada kesempatan ini kami sedang melakukan penelitian dengan judul eksplorasi factor-faktor yang berkontribusi terhadap peran perawat gawat darurat. Melalui penelitian ini saya bertujuan untuk mengetahui persepsi dan harapan Bapak/Ibu terkait peran perawat gawat darurat, faktor individu, organisasi, dan sistem yang mendukung dan menghambat implementasi peran yang dimaksud. Selain itu saya juga ingin mendapatkan gambaran arah pengembangan praktik keperawatan gawat darurat di masa mendatang.	

No.	JENIS INFORMASI	ISI INFORMASI	TANDAI
		Bapak/Ibu terpilih menjadi responden penelitian karena: 1. Bapak/Ibu adalah perawat yang bekerja di IGD meliputi ruang resusitasi, ruang triase, ruang trauma, dan ruang <i>urgent/non-urgent</i> atau, 2. Bapak/Ibu adalah dokter yang bekerja secara kolaborasi Bersama perawat di IGD meliputi ruang resusitasi, ruang triase, ruang trauma, dan ruang <i>urgent/non-urgent</i> atau, 3. Lingkup kerja/kebijakan/praktik Bapak/Ibu berhubungan dengan praktik keperawatan gawat darurat di IGD Jika Bapak/Ibu bersedia, maka Bapak/Ibu akan diminta kesediaannya untuk: <i>Observasi</i> Ditujukan hanya untuk responden perawat dan dokter emergensi. Proses observasi hanya dilakukan di rumah sakit dan ditujukan pada kegiatan sehari-hari pelayanan emergensi yang berlangsung di semua area, meliputi ruang triase, resusitasi, <i>urgent/non-urgent</i>, dan trauma. Observasi akan berfokus pada interaksi dalam tim, bukan individu. Nama perawat dan dokter tidak akan dicantumkan. Observasi akan dilakukan pada jam sibuk dan jam sepi pasien. <i>Wawancara</i> Wawancara ditujukan untuk perawat, dokter, dan manajer terkait di IGD dan rumah sakit. Wawancara akan berlangsung selama 40 – 60 menit. Selama proses wawancara berlangsung akan dilakukan perekaman. Wawancara akan mendiskusikan tentang persepsi dan harapan terkait peran perawat emergensi dalam tim emergensi dan di IGD. Wawancara kedua (minimal satu bulan setelah wawancara pertama) mungkin diperlukan untuk mengklarifikasi atau mendapatkan informasi lain terkait beberapa poin penting.	

No.	JENIS INFORMASI	ISI INFORMASI	TANDAI
		<i>Dokumen</i> Dokumen yang diikutsertakan dalam penelitian ini adalah dokumen milik rumah sakit yang berhubungan dengan kebijakan serta praktik keperawatan emergensi. Keikutsertaan Bapak/Ibu bersifat sukarela dan tidak ada paksaan dan tidak ada sanksi apa pun bila Bapak/Ibu tidak bersedia ikut. Bapak/Ibu juga bebas membatalkan keikutsertaan pada penelitian ini kapan saja.	
4.	Jumlah responden	15 – 20 orang.	
5.	Waktu peneltian	April – Agustus 2018	
6.	Manfaat penelitian termasuk manfaat bagi responden penelitian	1. Memberikan profil praktik keperawatan gawat darurat pada tempat penelitian 2. Mengidentifikasi strategi yang diperlukan untuk optimalisasi peran 3. Menjadi salah satu bahan acuan untuk mengembangkan program Pendidikan dan pelatihan perawat gawat darurat pada tempat penelitian	
7.	Risiko dan efek samping dalam penelitian	Tidak ada efek samping dalam penelitian ini	
8.	Ketidaknyamanan responden penelitian	Menyita waktu dalam kegiatan	
9.	Kompensasi bila terjadi efek samping	Tidak ada efek samping dalam penelitian	
10.	Alternatif penanganan (bila ada)	Tidak ada efek samping dalam penelitian	
11.	Penjagaan kerahasiaan data	Data yang didapat akan menjadi rahasia tim peneliti dan sepenuhnya akan digunakan untuk kepentingan penelitian. Nama dan identitas Bapak/Ibu akan disamarkan sehingga tidak ada yang dapat menghubungkan Bapak/Ibu.	
12.	Biaya yang ditanggung oleh subyek	Tidak ada	
13.	Insentif bagi responden	Souvenir	
14.	Nama dan serta nomor telepon yang dapat dihubungi	Arcellia Farosyah Putri Hp. 081586285193 Mahasiswi program doktoral keperawatan	

Setelah mendengarkan penjelasan pada halaman 1 dan 2 mengenai penelitian yang akan dilakukan oleh dengan judul:....., informasi tersebut telah Saya pahami dengan baik.

Dengan menandatangani formulir ini, saya menyetujui untuk diikutsertakan dalam penelitian di atas dengan suka rela tanpa paksaan dari pihak manapun. Apabila suatu waktu saya merasa dirugikan dalam bentuk apapun, Saya berhak membatalkan persetujuan ini.

Tanda Tangan Subyek atau cap jempol

Tanggal

Nama Subyek

Tanda Tangan Saksi/ Wali

Tanggal

Nama Saksi/ Wali

Ket: Tanda tangan saksi/ wali diperlukan bila subyek tidak bisa baca tulis, penurunan kesadaran, mengalami gangguan jiwa, dan berusia dibawah 18 tahun.

Saya telah menjelaskan kepada subyek secara benar dan jujur mengenai maksud penelitian, manfaat penelitian, prosedur penelitian, serta resiko dan ketidaknyamanan potensial yang mungkin timbul (penjelasan terperinci sesuai dengan hal yang Saya tandai diatas). Saya juga telah menjawab pertanyaan-pertanyaan terkait penelitian dengan sebaik-baiknya.

Tanda Tangan Peneliti

Tanggal

Nama Peneliti

Appendix 6: Hospital Research Approval

	KEMENTERIAN KESEHATAN DIREKTORAT JENDERAL PELAYANAN KESEHATAN RSUP NASIONAL Dr. CIPTO MANGUNKUSUMO Jalan Diponegoro No. 71 Jakarta 10430 Kotak Pos 1086 Call Center : 1500135 Fax : (021) 3148991,3914661 Website: www.rscm.co.id	

NOTA DINAS

NOMOR : 02 12.2 10367/2018

Yth. : 1. Kepala Bagian Pendidikan dan Pelatihan
2. Kepala Bidang Keperawatan
3. Kepala Instalasi Gawat Darurat (IGD)

Dari : Kepala Bagian Penelitian

Hal : Persetujuan Perpanjangan Ijin Penelitian

Tanggal : 17 April 2018

Bersama ini kami sampaikan, penelitian :

No. Agenda : 2126

Nama : Ns. Arcellia Farosyah Putri, S. Kep., MSc

NIP/NPM : -

Anggota Peneliti : Ns. Siti Nurlaelah, S.Kep., SpKMB

Dari RSCM

Fakultas : Keperawatan

Universitas : Edinburgh

Strata : S3

Judul : Eksplorasi Faktor-faktor yang Berkontribusi terhadap Peran Perawat Gawat Darurat

Lokasi : Bagian Pendidikan dan Pelatihan, Bidang Keperawatan dan Instalasi Gawat Darurat

Pada prinsipnya kami mengijinkan, selanjutnya mohon kiranya Saudara dapat membantu kegiatan penelitian tersebut.

Dr. dr. Sukanto, SpPD, K-AI., FINASIM

Tembusan Yth :

1. Direktur Pengembangan dan Pemasaran
2. Ns. Siti Nurlaelah, S.Kep., SpKMB
3. Peneliti yang bersangkutan

Catatan :

* Surat persetujuan ijin penelitian berlaku satu tahun dari tanggal persetujuan.

** Peneliti berkewajiban

1. Menjaga kerahasiaan identitas subyek penelitian.
2. Memberitahukan status penelitian apabila
 - a. Setelah masa berlakunya persetujuan ijin penelitian, penelitian masih belum selesai, dalam hal ini persetujuan ijin penelitian harus diperpanjang.
 - b. Penelitian berhenti di tengah jalan.
3. Melaporkan KTD, KNC dan kejadian serius yang tidak diinginkan (serious adverse event) ke Komite Mutu, Keselamatan dan Kinerja (KMKK) dan Komite Etik Penelitian Kesehatan FKUI-RSCM.
4. Peneliti tidak boleh melakukan tindakan apapun pada subyek sebelum mendapat lolos kaji etik, surat persetujuan ijin penelitian dan sebelum memperoleh informed consent dari subyek penelitian.
5. Menyampaikan laporan akhir, bila penelitian sudah selesai.

"Menolong, memberikan yang terbaik"


KARS
SERT/127/VIII/2015


JCI
CN.2431.1

Appendix 7: Professional Organisation Research Approval



**DEWAN PENGURUS PUSAT
PERSATUAN PERAWAT NASIONAL INDONESIA
(INDONESIAN NATIONAL NURSES ASSOCIATION)**

Address: Jl. Raya Lenteng Agung No.64 RT.006 RW.008, Lenteng Agung, Jagakarsa, Jakarta Selatan -12610
Phone : 021-2271 0272, Fax : 2271 4959 E-Mail : dppppni@gmail.com
www.ppni-inna.org

PERMISSION LETTER

No: 1118/DPP.PPNI/S.8/K/IV/2018

Project: Exploring Contributory factors towards Emergency Nurses' roles in an Indonesian Emergency Departement

Jakarta, April 23, 2018

Principal Supervisor Dr Jennifer Tocher

Dear Dr Jennifer Tocher

Thank you for your request for approval from **Persatuan Perawat Nasional Indonesia (PPNI)** for the above-named research.

We have read and understood the Explanatory Statement regarding the research project (**Project Title: Exploring Contributory factors towards Emergency Nurses' roles in an Indonesian Emergency Departement**) and hereby give permission for this research to be conducted.

Yours sincerely,



Harif Fadhilah

President of Indonesian National Nurses Association (INNA)



PENGURUS PUSAT
HIMPUNAN PERAWAT GAWAT DARURAT DAN BENCANA INDONESIA
(Indonesian Emergency and Disaster Nurses Association – IEDNA)
Sekretariat : Jl.Pisangan Baru Utara No 2,RT9/ RW14,Kel.Pisangan Baru, Kec. Matraman, Jakarta Timur. 13110
Email : hipgabi_pusat@yahoo.com ; Hotline: 08126757644, 087879219915 (WA), 08880154823. PIN BB: 314000cb

PERMISSION LETTER

No. 037/PP HIPGABI/B/VIII/2018

Project Title : Exploring Contributory Factors Towards Emergency Nurses' Roles in an Indonesian Emergency Department.
Author: Miss. Arcellia Farosyah Putri.

Jakarta, Agust 06, 2018

Principal Supervisor Dr. Jennifer Tocher

Dear Dr. Jennifer Tocher

Thank you for your request for approval from Himpunan Perawat Gawat Darurat dan Bencana Indonesia for the above-named research.

We have read and understood the Explanatory Statement regarding the research project and hereby give permission for this research to be conducted.

Yours sincerely,



Amelia Kurniati, SKp., MN
President of Indonesian Emergency and Disaster Nurses Association

Appendix 8: An Example of the Interview Guideline

Exploratory Questions

1. Could you share your views on roles of nurses in the emergency department?
2. What challenges that you encounter when performing the roles? How do you manage the challenges?
3. What kind of support is needed to perform the roles?
4. What are your expectations regarding the role of emergency department nurses?

Propositional Questions

1. Why do you think “X” is important factor for emergency nurses’ roles?
2. Could you explain how “X” happened?
3. What consequences do you think emerged from the process?

Appendix 9: Areas of Contribution to CMO Configurations of Included Studies and Documents

Authors (publication year) Population	Title	Data Provided by Studies and Documents to CMO Configurations of Emergency Nurses' Role Transition				
		Driving Forces	Nurse Practitioner Model	Context	Mechanism	Outcome
Crinson (1995a) England	Impact of the patient's charter on A&E departments: 1	x	x	x		
Crinson (1995b) England	Impact of the patient's charter on A&E departments 2: the emergency nurse practitioner	x	x	x	x	x
Shea and Selfridge-Thomas (1997) USA	The ED nurse practitioner: pearls and pitfalls of role transition and development	x	x	x	x	x
Tye (1997) UK USA	The emergency nurse practitioner role in major accident and emergency department: professional issues and research agenda	x	x	x		
Christofis (2001)	Nurse practitioners: an exploration of the issues surrounding their role in Australian	x	x	x	x	x

Authors (publication year) Population	Title	Data Provided by Studies and Documents to CMO Configurations of Emergency Nurses' Role Transition				
		Driving Forces	Nurse Practitioner Model	Context	Mechanism	Outcome
UK USA Australia	Emergency Department					
Marr et al. (2003) England	Mapping the range and scope of emergency nurse practitioner services in the Northern and Yorkshire Region: a telephone survey	x	x	x		
Norris and Melby (2005) Northern Ireland	The acute care nurse practitioner: challenging existing boundaries of emergency nurses in the United Kingdom	x	x	x	x	x
Considine et al. (2006) Australia	Defining the scope of practice of the emergency nurse practitioner in a metropolitan emergency department	x	x	x		x
Griffin and Melby (2006) Northern Ireland	Developing an advanced nurse practitioner service in emergency care: attitudes of nurses and doctors	x	x	x	x	x
Cashin et al. (2007) Australia	Clinical initiative nurses and nurse practitioners in the emergency department: what's in a name?	x	x	x		
Hudson and Marshall (2008)	Extending the nursing role in Emergency Departments: Challenges for Australia	x	x	x	x	x

Authors (publication year) Population	Title	Data Provided by Studies and Documents to CMO Configurations of Emergency Nurses' Role Transition				
		Driving Forces	Nurse Practitioner Model	Context	Mechanism	Outcome
UK USA Australia						
Fry and Rogers (2009) Australia	The transitional emergency nurse practitioner role: implementation study and preliminary evaluation	x	x	x	x	x
Keating et al. (2010) Australia	Perceived barriers to the sustainability and progression of nurse practitioners	x	x	x	x	x
Lowe (2010) Australia	Scope of emergency nurse practitioner practice: where to beyond clinical practice guidelines?	x	x	x	x	x
Emergency Nursing Association [ENA] (2011b) USA	Emergency nursing scope and standards of practice	x	x	x		
Fotheringham et al. (2011) Scotland	The evolution of the role of the emergency nurse practitioner in Scotland: a longitudinal study	x	x	x	x	x

Authors (publication year) Population	Title	Data Provided by Studies and Documents to CMO Configurations of Emergency Nurses' Role Transition				
		Driving Forces	Nurse Practitioner Model	Context	Mechanism	Outcome
Hodge et al. (2011) UK USA Australia	Revision and evaluation of an 'advanced' nursing role in an Australian emergency department	x	x	x	x	x
Melby et al. (2011) Northern Ireland	Emergency nurse practitioners: the views of patients and hospital staff at a major acute trust in the UK	x	x	x	x	x
Hoskins (2011) UK USA Australia Canada	Evaluating new roles within emergency care: a literature review	x	x	x	x	x
Hoskins (2012) N/A	Interprofessional working or role substitution? A discussion of emerging roles in emergency care	x	x	x	x	x
Royal College of Nursing [RCN] (2013) UK	Advanced nurse practitioner: an RCN guide to advanced nursing practice, advanced nurse practitioners and programme accreditation	x	x	x		

Authors (publication year) Population	Title	Data Provided by Studies and Documents to CMO Configurations of Emergency Nurses' Role Transition				
		Driving Forces	Nurse Practitioner Model	Context	Mechanism	Outcome
College of Emergency Nursing Australasia [CENA] (2013) Australia	Practice standards for the emergency nursing specialist	x	x	x		
Bryson (2016) Scotland	How emergency department staff perceive acute nurse practitioners	x	x	x	x	x
Lloyd-Rees (2016) England	How emergency practitioners view their role within the emergency department: a qualitative study	x	x	x	x	x
Tye and Ross (2000) England	Blurring boundaries: professional perspectives of the emergency nurse practitioner role in a major accident and emergency department	x	x	x	x	x
Schrivier et al. (2003) USA	Emergency nursing: historical, current, and future roles	x	x	x	x	x
Snyder et al. (2006) USA	From "first aid rooms" to advanced practice nursing: a glimpse into the history of emergency nursing	x	x	x	x	x

Authors (publication year) Population	Title	Data Provided by Studies and Documents to CMO Configurations of Emergency Nurses' Role Transition				
		Driving Forces	Nurse Practitioner Model	Context	Mechanism	Outcome
Carter and Chochinov (2007) UK USA Australia Canada	A systematic review of the impact of nurse practitioners on cost, quality of care, satisfaction, and wait times in the emergency department		x	x		x
Chung (2008) UK	Transition into an emergency nurse practitioner: a sharing of self-reflection	x	x	x	x	x
Jennings et al. (2008) Australia	Evaluating outcomes of the emergency nurse practitioner role in a major urban emergency department, Melbourne, Australia		x			x
Colligan et al. (2011) New Zealand	Emergency nurse practitioners: do they provide an effective service in managing minor injuries, compared to emergency medicine registrars?					x
Dinh et al. (2012) Australia	Evaluating the quality of care delivered by an emergency department fast track unit with both nurse-practitioners and doctors					x

Authors (publication year) Population	Title	Data Provided by Studies and Documents to CMO Configurations of Emergency Nurses' Role Transition				
		Driving Forces	Nurse Practitioner Model	Context	Mechanism	Outcome
Thompson and Meskell (2012) Republic of Ireland	Evaluation of an advanced nurse practitioner (emergency care) – an Irish perspective		x			x
McClellan et al. (2013) England	A randomised trial comparing the cost effectiveness of different emergency department healthcare professionals in soft tissue injury management		x			x
Innes et al. (2015) Australia	Care of patients in emergency department waiting rooms – an integrative review		x	x		x
Jennings et al. (2015a) UK USA Australia New Zealand Netherland Canada	The impact of nurse practitioner services on cost, quality of care, satisfaction and waiting times in the emergency department: a systematic review		x	x		x
Jennings et al. (2015b)	Evaluating emergency nurse practitioner service effectiveness on achieving timely		x	x		x

Authors (publication year) Population	Title	Data Provided by Studies and Documents to CMO Configurations of Emergency Nurses' Role Transition				
		Driving Forces	Nurse Practitioner Model	Context	Mechanism	Outcome
Australia	analgesia: a pragmatic randomised controlled trial					
Steiner et al. (2015) Canada	Impact of a nurse practitioner on patient care in Canadian emergency department					x
Health Education England [HEE] (2017) England	Multi-professional framework for advanced clinical practice in England	x	x	x		
Roche et al. (2017) Australia	The effectiveness of emergency nurse practitioner service in the management of patients presenting to rural hospitals with chest pain: a multisite prospective longitudinal nested cohort study	x	x	x	x	x
Karanikola et al. (2017) Greece	Perception of critical and emergency department nurses regarding changes in their professional role	x	x	x	x	x
Woo et al. (2017) New Zealand Australia	The impact of advanced practice nursing role on quality of care, clinical outcomes, patient satisfaction, and cost in the emergency and critical care settings: a	x	x	x	x	x

Authors (publication year) Population	Title	Data Provided by Studies and Documents to CMO Configurations of Emergency Nurses' Role Transition				
		Driving Forces	Nurse Practitioner Model	Context	Mechanism	Outcome
Canada	systematic review					
Bagley (2018) Scotland	Exploring emergency nurse practitioners' perceptions of their role	x	x	x	x	x
Boman et al. (2018) Norwegia	Nurses' understanding of a developing nurse practitioner role in the Norwegian emergency care context: A qualitative study		x	x		x
Fox et al. (2018) Australia	Nursing service innovation: a case study examining emergency nurse practitioner service sustainability	x	x	x	x	x
Canadian Nurses Association [CNA] (2019) Canada	Advanced practice nursing: a pan-Canadian framework	x	x	x		
Trisyani and Windsor (2019) Indonesia	Expanding knowledge and roles for authority and practice boundaries of emergency department nurses: a grounded theory study	x	x	x	x	x
International Council of Nurses [ICN] (2020) N/A	Guidelines on Advanced Practice Nursing	x	x	x		