A multi-phase study of contemporary policy and practice in determining nursing skill mix in acute hospitals in Ireland.

Michael Shannon

MBA (Hons), BSc (Hons), RGN, RPN, ONC, Dip Education

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Student Number: 58120947

Dublin City University School of Nursing and Human Sciences

Supervisor: Dr Anne Mathews, Dublin City University

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctorate of Philosophy is entirely my own work, that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

Signed: _____ (Candidate)

ID No.: 58120947_____

Date: _____

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Glossary (of relevant Irish Institutions)

An Bord Altranais

Translates as the Irish Nursing Board by the Nurses Act, 1950 to take over the functions of two bodies, the Central Midwives Board and the General Nursing Council, which had been established in 1918 and 1919, respectively. The Board was re-constituted and its functions were re-defined and expanded by the Nurses Act, 1985. The Board continues to operate under the provisions of this Act. The Board is responsible for the regulation of nurses and midwives in Ireland.

Band 1 Hospital

Band 1 hospitals are defined as an acute general hospital in Ireland with a bed capacity of over 320 inpatient beds and activity levels of over 30,000 for acute inpatient admission per year and 70,000 ambulatory admissions per year (Department of Health and Children 1997a).

Department of Health

The Department of Health is a department of the Government of Ireland**.** The Department's mission is to lead the development of high quality, equitable and efficient health and personal social services. The Department is led by the Minister for Health who is assisted by two Ministers of State**.** From 1997-2011 the Department of Health and Children covered both health and children functions.

FÁS - An Foras Áiseanna Saothair

An Foras Áiseanna Saothair referred to in as the Training and Employment Authority and commonly known as FÁS is a state agency in Ireland with responsibility for assisting those seeking employment**.**

Health Service Executive

The Health Service Executive (HSE) is responsible for the provision of healthcare providing health and personal social services for everyone living in Ireland, with public funding. The Executive was established by the Health Act, 2004 and came into official operation on January 1, 2005.

Acronyms

ADON Assistant Director of Nursing

ANP Advanced Nurse Practitioner

CNM1 Clinical Nurse Manager 1

CNM2 Clinical Nurse Manager 2

CNM3 Clinical Nurse Manager 3

CNS Clinical Nurse Specialist

DONMPDU Director of Nursing and Midwifery Planning and Development Unit

DON Director of Nursing

HCA Health Care Assistant

INMO Irish Nurses and Midwives Organisation

PM Policy Maker

WHO World Health Organization

Abstract

The profession of nursing has undergone significant changes in Ireland in the last decade, within the wider health service reform context. Determining the optimal nursing skill mix for acute hospitals is perceived as important to ensure the efficient use of the nursing workforce in the provision of safe and high quality care. However, the term nursing skill mix, though widely used, is contested, and practices to determine skill mix in acute hospitals in Ireland are poorly understood.

The aim of the study was to examine contemporary policy and practice in determining optimal nursing skill mix in acute hospitals in Ireland. The objectives were to analyse current policy approaches used to determine skill mix nationally and internationally, to examine how the term nursing skill mix is understood and used by managers and policy makers in Ireland and to explore nursing roles in contemporary practice.

A review of national and international policy was undertaken highlighting that despite increasing interest nationally and internationally in various approaches to determining optimal nursing skill mix that there is little evidence base for or standardisation of approaches.

Following this, semi-structured interviews with 54 nursing managers and policy makers were conducted to explore different perspectives on how nursing skill mix is understood and determined in acute hospitals in Ireland. Themes identified in this study relate to the diversity of influences on skill mix; nursing role ambiguities and inconsistencies in nursing skill mix practices. Results from the quantitative analysis of closed-ended questions confirmed a lack of clarity of who is involved in determining nursing skill mix, the various influential factors and the main principles associated with determining nursing skill mix.

The key conclusions of this study relate to the subjective-objective paradox between the complexity of everyday clinical practice settings and the objective methods proposed to determine skill mix and the macro-micro disconnect of methods and approaches across policy makers and nurse managers. There is a need to integrate the macro-micro and subjective-objective tensions in the development of skill mix policy and practice for nursing in Ireland. Adopting effective skill mix practices will facilitate the effective implementation of key healthcare reforms that optimally utilise the nursing workforce.

Chapter 1
Introduction

> Nursing is perceived by the nursing profession as a valuable resource but must be utilised effectively and efficiently to meet the healthcare needs of the population. (O' Halloran 2009, p.2)

1.1 Introduction

Nurses working in acute hospitals in Ireland presently face considerable challenges in providing increasingly specialised care to patients with more complex needs than ever. There is a current public sector employment control framework in operation, including a moratorium on staff recruitment and mandated reductions in intakes into nursing programmes over recent years. These constraints place greater demands on practising nurses to do more, and better, with fewer staff. This represents a challenge but also an opportunity to examine the nursing skill mix required to deliver safe and effective health care in the most cost effective manner in acute settings. This furthermore requires a re-examination of the nursing role and nursing skills, alongside the roles and skills of other staff members who provide care. In the current constrained economic environment, those who will lead nursing into the future, nurse managers and policy makers, will have to be able to clearly articulate and justify the processes of nursing skill mix determination undertaken in acute hospitals. Though the term nursing skill mix is widely used, there is little clarity about what is meant by it and how it is determined in acute general hospitals in Ireland in the reality of everyday practice. The term is often used rhetorically, either stated as a problem or a solution, without explication of its meaning and of the practical realities of how it is operationalised in practice.

In particular, at present we do not know enough about how managers and policy makers understand and determine nursing skill mix in acute band 1 hospitals in Ireland. Underpinning this is the need to examine nursing roles in contemporary practice in acute general hospitals in Ireland. Therefore this study examines nursing roles and skill mix with key nursing stakeholders, from Clinical Nurse Managers 2 at hospital ward level to policy makers at a national level, in order to

provide a comprehensive picture about skill mix from across the spectrum (micro to macro) of acute care settings in Ireland. In so doing it seeks to address the gap in our knowledge about nursing skill mix in Ireland and to contribute to the wider literature about skill mix in contemporary healthcare.

In an Irish context, as well as the economic downturn affecting health spending, two related sets of developments over the last decade are particularly relevant to and are shaping the debate about nursing skill mix. Firstly, the Irish health care system has been through significant and far-reaching restructuring, including the creation of the centralized Health Service Executive (HSE) since 2005. Driving this restructuring, there has been an explicit policy goal to shift resources and services from acute care into primary care and for greater service coordination and integration of services. Secondly, changes have taken place in the profession of nursing, particularly in specialist and advanced clinical roles and responsibilities and in education and in management roles, following the hugely influential Report of the Commission on Nursing (Government of Ireland 1998).

Identifying an optimal skill mix is becoming more important as human and financial resources shrink (FÁS 2009). There is now an urgent need to examine the effective utilisation of the nursing workforce in Ireland.

The heightened emphasis on efficiency and effectiveness of the nursing resource in acute general hospitals in recent years in Ireland has increased interest in the examination of nursing skill mix. It is against this context that this study addresses the need to examine understanding and identify effective approaches to nursing skill mix determination in Ireland. Many nurses, at all grades in all acute hospitals, experience the challenge of determining appropriate nursing skill mix. Nursing managers have difficulty identifying and maintaining the appropriate skill mix (Department of Health and Children 2001b). This study contributes to answering that challenge.

1.2 My own background

The initial idea for the study came from a concern that arose while I was working at the Department of Health and Children (DoHC) in Ireland as a nurse advisor

between 1998 and 2001. Many nurses and healthcare managers made enquiries at that time into best practice relating to determining nursing skill mix for acute general hospitals. A recurring query was: what methods or guidance were available to support skill mix determination? The impetus for this study grew due to the many changes that were occurring in Irish healthcare and nursing policy and coupled with these the growing industrial relations unrest. These factors contributed to a move by some acute hospitals towards exploring opportunities and mechanisms for examining skill mix in nursing, some of which may not have been based on empirical research findings or international models of best practice.

In 2000, I was invited to chair a working group, representative of nursing unions and health service employers, and the Department of Health and Children, to address the effective utilisation of the professional skills of nurses and midwives in Ireland (DoHC 2001b). This group was required to examine opportunities for the increased use of Health Care Assistants (HCA) and other non-nursing staff in clinical care roles. Many questions on how to determine the appropriate and safe skill mix remained unanswered despite the extensive work of the working group. These unanswered questions coupled with the increasing use of different methods to determine skill mix in hospitals influenced my decision to research the issue skill mix in acute healthcare in Ireland.

During the period of 2002 to 2008 I worked as a Director of Nursing in two separate Band 1 acute general hospitals. Band 1 hospitals are defined as an acute general hospital in Ireland with a bed capacity of over 320 inpatient beds and activity levels of over 30,000 for acute inpatient admission per year and 70,000 ambulatory admissions per year (Department of Health and Children 1997a). There I had direct experience of leading the delivery of patient care in these hospitals, through two different nursing skill mix approaches. One hospital utilised a high proportion of HCAs in care delivery and they worked within a nursing team. The other hospital had a higher level of qualified nursing staff, as compared to HCAs. Leading nursing within these two different contexts led me to question the evidence underpinning these different approaches and this evidence was not readily available to me or others in my position. Finally, in my

current role as National Director of Nursing and Midwifery, Health Service Executive, I provide leadership to the profession in the current challenging economic environment and now more than ever there is a need to have greater understanding of nursing roles and skill mix in contemporary practice in Ireland.

1.3. Aims and objectives

The aim of the study was to examine contemporary policy and practice in determining optimal nursing skill mix in acute hospitals in Ireland.

The specific objectives were:

1. To analyse current policy approaches to determine skill mix nationally and internationally
2. to examine how the term nursing skill mix is understood and used by managers and policy makers in Ireland
3. to explore nursing roles in contemporary practice

1.4. Outline of the remaining chapters

In Chapter 2 the context and background to the study are discussed. Chapter 3 presents a review of the research literature on nursing skill mix. Challenges in defining the term nursing skill mix are reviewed. Additionally, the review pays particular attention to the various approaches used to determine nursing skill mix, the role of non-registered nursing staff and their impact on nursing skill mix.

Chapter 4 describes the methodology of this multi-phased study which included a policy review of both national and international policies and the collection of primary data from nursing managers and policymakers using a semi-structured interview with some closed questions. In the study, an interview guide was used to guide interviews with 45 nurse managers and 9 policymakers.

Chapter 5 presents the phase 1 findings from a review of national and international policies relating to skill mix determination. Chapter 6 presents the findings of the interview phase of the study. The qualitative findings are presented under the following themes: (1) the diverse influences and staffing

terminology to determine nursing skill mix, (2) the ambiguity of nursing roles in acute care and (3) the inconsistent practices and approaches in determining nursing skill mix. Quantitative findings relating to responses to closed questions asked during the interviews are also presented.

Chapter 7 provides a discussion around the three main themes which emerged from the study findings, linking these new findings with previous literature and using Ritzer's (2008) theory of social analysis to frame the discussion.

In Chapter 8 conclusions about these findings are made and key recommendations and future research directions are proposed.

Chapter 2
Background to the Study

> So never lose an opportunity of urging a practical beginning, however small, for it is wonderful how often in such matters the mustard-seed germinates and roots itself. (Florence Nightingale 1842, p.12)

2.1 Introduction

In Ireland nurse managers and policy makers are striving to identify the most effective skill mix within available resources, and to provide high quality and safe care. Many health systems around the world have also come under scrutiny for cost containment and quality improvement, often as a direct or indirect result of health sector reform (Buchan and Seccombe 1994; Kolehmainen-Aitken 1998). It is therefore appropriate to contextualise a study of nursing skill mix within the broader healthcare setting and outline the health and nursing policy developments which have had significant impact on nursing in Ireland.

2.2 Acute hospitals in Ireland

The core aim of the last Department of Health and Children's (2001a) health strategy was to improve the public's health and reduce inequalities. The health strategy outlined the blue-print for acute hospital reform in Ireland. The Taoiseach at the time stated that "the unprecedented levels of investment which has been committed to our health services can deliver improvements in services throughout the country" (Ahern 2001). However, implementation required an effective partnership with people willing to work together and, where necessary to "change the way business is currently done" (Department of Health and Children 2001, p.2). In the context of the programme for reform and skill mix, the health strategy clearly outlined that:

> It is imperative to ensure that qualified, competent workforces to meet the changing demands of the people are developed. It is vital to plan effectively at national and local level so as to recruit, retain and develop a workforce with the capacity and skills to meet service needs. Recent studies of workforce requirements for nurses, doctors and certain grades

> of health and social care professionals have assisted in this process. Also, that a culture that emphasises the value of continuous learning and improvement in the skills and experience of everyone working in the system is guaranteed. (p.8)

The health strategy laid the foundation for significant structural, financial and delivery reform within the health services. A key element of this change process was to separate out the functions of legislation and policy formulation from actual service delivery. Consequently in 2004, the Health Service Executive (HSE) was established, coming into operation in 2005. The HSE is responsible, according to its founding legislation, for providing health and personal social services for everyone living in the Republic of Ireland. As outlined in the Health Act, 2004 (DoHC 2004a), the objective of the Executive is to use the resources available to it in the most beneficial, effective and efficient manner to improve, promote and protect the health and welfare of the public.

The establishment of the HSE represented the beginning of the largest programme of change ever undertaken in the Irish public service. Prior to this, services were delivered through a complex structure of seven Regional Health Boards, the Eastern Regional Health Authority and a number of other different agencies and organisations. The HSE (2004) replaced all of these organisations. While the new government taking office in 2011 proposes within the Programme for Government that the HSE "will cease to exist over time" there are no immediate timelines on this at this time (Department of the Taoiseach 2011, p 6). It is now the single body responsible for ensuring that everybody can access cost effective and consistently high quality health and personal social services. The largest employer in the State, the HSE employed at the end of September, 2010, 108,801 whole time equivalents (WTEs) healthcare staff across all HSE-funded organisations (Health Service Personnel Census 2010). The nursing and midwifery element made up a significant proportion of the HSE workforce. At the end of September 2010, some 33.98 per cent 36,966 (WTEs) of the public healthcare workforce were employed as nurses/midwives (Health Service Personnel Census 2010). This is the largest group of employees within the public health sector. While this number had fallen to 35,800 by September 2011, due to

public sector employment controls, nursing/midwifery remains by far the largest healthcare occupational group.

Following the creation of the Integrated Services Directorate in the HSE, Ireland's 53 acute hospitals were divided into Hospital Groups within four areas: North, South, East and West. Within this structure, hospitals are banded according to size on a scale of 1–5. In 2006 the HSE launched the Transformation Programme (2007–2010). A key feature of the current Transformation Programme of the HSE is the reconfiguration of health service provision from the acute sector to primary, community and continuing care (PCCC). This change in service delivery would have significant implications for the implementation of nursing skill mix across the health services in Ireland with the shift in care from the acute into primary, community and continuing care settings. This is particularly relevant in the context of the evolution of nursing in Ireland, and changes in clinical roles and responsibilities and the professionalization of nursing and midwifery.

2.2.1 The evolution of nursing in Ireland

In the first part of the nineteenth century, following the loosening and subsequent repeal of the Penal Code, the Irish Catholic church became active in establishing education, health/nursing and poor relief services, providing care for the elderly, the insane and the "fallen" (Inglis 1998; Luddy 1995; Magray 1998; McKenna 2006). By the 1960s, periodicals in Ireland had begun to include discussion on the actual and potential contribution of nurses in the health services. Periodicals such as the Lady of the House, a late Victorian-Edwardian society journal, 'a better class of woman' into nursing (Dublin Hospital Sunday Fund 1879), the Catholic Nurse (1922), the Irish Nurses' Union (1936), and the Irish Nurses' Journal (1936), which carried reports of research into nursing, including job analysis and time and motion studies, and discussed hitherto unrecognised aspects of the nurse's role, such as the role as a health educator (Fealy 2004).

A major review of the role of nurses in the Irish health services and health services management was agreed and commenced in 1975, when the Minister for Health established a Working Party on General Nursing (Department of Health

1975). The Working Party reported in 1980 and made 66 recommendations, among which was recognition of the role and function of nursing and the provision of support staff in relation to non-nursing duties (Department of Health 1980, para. 4.20.10).

A study to examine nursing activities was conducted on behalf of the Working Party on General Nursing (1980) by the Institute of Public Administration where a list of tasks or activities was distributed to 90 staff nurses asking them to record their activities during a one-week period. The findings of this activity analysis survey (Department of Health 1980) indicated four distinct patterns of work activities. These included: patient-oriented activities such as giving injections to patients, decision-making activities such as ordering supplies, doctor-assisting activities such as taking blood samples and housekeeping activities such as cleaning and tidying. This study, however, did not make reference to the distribution of work activities across these four areas. McGowan (1980, p.8) outlined that the work of the nurse was being viewed as complex, involving the application of a range of skills for an ever more complex clinical role to include care planning, problem solving and patient safety. This also included ward administration and teaching students, and by 1980 the qualities of a good nurse McGowan included as being "an efficient organizer" and being "able to talk to patients".

By the 1990s, many Irish nurses considered the "good nurse" ideal to be a myth (Simons *et al.*1998). With better understanding of the complexity of nursing roles, the traditional qualities and disposition perspective was being replaced by one that valued sound knowledge and clinical competence as the basis for good nursing. While the "good Irish nurse" persisted in the consciousness, nurses were now viewed as being well educated, having up-to-date skills, and aware of the need to be up-to-date with current knowledge, and were perceived to be open-minded, competent, confident and ethical (Simons *et al.*1998). However, if nurses now understood nursing to be concerned with advanced knowledge and complex skills, the Irish public's understanding reflected a lack of awareness of nursing expertise? Informed by stereotypical portrayals of nursing in popular culture, depicting the nurse as inferior, subservient or decorative, much of the

Irish public believed that nurses did what they were told to do by doctors (McCarthy 1994).

2.2.2 The professional development of nursing in Ireland over the last decade

A number of reports were published between 1998 and 2011 that have had a huge impact of the development of the nursing profession. In Ireland the most influential force for public and professional policy in relation to nursing has been the implementation of the 1998 Report of the Commission on Nursing. *The Commission on Nursing* was established as a recommendation of the Labour Court in 1997, following a threat of industrial action by nurses (Department of Health and Children 1997c). The *Report of the Commission on Nursing: A Blueprint for the Future* (1998) was a result of extensive consultation with nurses, midwives and other interested parties through written submissions, consultative fora, meetings with individuals and groups, seminars following publication of the interim report, and meetings with stakeholders prior to the publication of the final report. It examined the role, promotional opportunities and education of nurses and midwives.

To place nursing in its proper context both nationally and internationally, a number of literature reviews were commissioned to facilitate the deliberations in preparing this report. The three most influential studies in relation to the development of the professional role of the nurse were: Changes in the Professional Role of Nurses in Ireland 1980–1997 (Condell 1998), An Examination of the Changes in the Professional Role of the Nurse outside Ireland (Savage 1998) and Management in the Health Services: The Role of the Nurse (Flynn 1998).

In an extensive review of the changes in the professional role of nurses during the 17 years between 1980 and 1997, Condell (1998) concluded that the Irish nursing profession needed to clearly state the parameters of nursing care so that role boundaries are established and defined to allow future clarity on the issues of role erosion and role extension and challenge the nursing skill mix requirements for healthcare organisations in the future.

In her examination of the changes in the professional role of the nurse outside of Ireland, Savage (1998) stated that there were a number of problems associated to the role of the nurse including role strain, role conflict, and role ambiguity which evolved around issues such as definite agreement on levels of practice, legislation for advance practice, criteria for entry to specialised/advanced practice and the scope of professional practice. In her review of management in the health services, Flynn (1998) identified the diversity of roles taken by nurses in the management of the health services internationally and that the wider hospital organisational structure very much determines the parameters of the nursing structure within any organisation.

In relation to the focus of this study, the relevant recommendations of the Report of the Commission on Nursing (1998) were that the nursing profession should take greater responsibility for the regulation and practice of the profession in nursing (4.2), that the Minister for Health and Children facilitate the transition of preregistration of nursing into the third-level institutes at degree level (5.19) and that an independent statutory agency called the National Council for the Professional Development of Nursing and Midwifery be established to monitor the ongoing development of nursing and midwifery specialists, establish guidelines for the creation of specialist nursing and midwifery posts nationally and institute guidelines and accreditation of advanced nurse and midwife posts taking into account standards of professional practice (6.12). The National Council for the Professional Development of Nursing and Midwifery was established in 2001 and oversaw the development of clinical career pathways for nursing and midwifery for 10 years but new legislation (October, 2011) is being enacted to support the dissolution of the Council.

The Report of the Commission on Nursing (1998, p.7) also recommended that an examination of the nursing and midwifery resource be undertaken by a steering group under the auspices of the Department of Health and Children. The findings in the *Interim Report* (1997b, p.15) suggested: "In the tightening labour market there is likely to be a re-assessment and re-evaluation of professional roles and consideration to the concept of 'substitution' and 'redistribution of tasks' of nurses." However, on what premise this recommendation is made, is unclear,

whether it related to reviewing the role and function of nursing grades or the delegation of certain tasks performed by nurses. This view was challenged by Shannon in Ireland in 2001 and 2002. Shannon (2001, p.6) in the *Effective Utilisation of Professional Skills of Nurses and Midwives* Irish Report recommended that the grade of HCA/maternity HCA be introduced as a member of the health care team to assist and support the nursing and midwifery function in Ireland. The Report also recommended that the nursing/midwifery function remain the preserve of nurses and midwives to ensure the profession is effectively regulated, educated and developed. This view was further supported by Shannon (2001, p.11) who outlined in an Irish Department of Health and Children Report that:

> There is no substitution for the skilled expertise of the qualified nurse who must remain central to the assessment, planning, implementation and evaluation of patient-care and to the supervision and delegation of all activities relation to patient care.

However, while the role of HCAs is evolving, the progression of the role has taken place without regulation, and sometimes without clear boundaries, or systematic education and training. This raises serious concerns, especially with regard to the issues of patient safety and quality of patient care and the need for evidence based research to explore these concerns.

Within the final report of the Nursing and Midwifery Resource Steering Group, *Towards Workforce Planning* (2002), there was recognition that the profession can exert considerable influence on health service re-design. The report recommended the adoption of an integrated strategic approach to workforce planning with the nursing and midwifery professions as key participants to create the skilled, competent and qualified workforce that meets the changing demands of the health system (Department of Health and Children 2002). However the recommendations of this report were only introduced in 2009. Achieving integration of healthcare workforce planning care is a key policy objective of the Department of Health and Children and the HSE. It is intended to reduce the

frustration, delay, inefficiency, and the gaps that frequently exist in current workforce strategies.

The Commission also recommended that the question of additional recognition of long service for staff nurses be examined through the established structures, that middle nursing management should have a defined management role, have defined management responsibility with explicit delegation of authority from directors of nursing, and have defined functional roles in managing units of care (para. 7.29), the development of first-line nursing management to fulfil the following functions: professional/clinical leadership, staffing and staff development, resource management and facilitate communication (7.41) and that there should be grades of first-line nursing management in the health services: Clinical Nurse Manager 1 (reporting to a Clinical Nurse Manager 2); Clinical Nurse Manager 2 (in charge of a ward or unit) and Clinical Nurse Manager 3 (in charge of a department) (para. 7.45). Other Commission recommendations are that the health service providers, nursing management and nursing organisations examine opportunities for the increased use of care assistants and other non-nursing personnel in the performance of non-nursing tasks (para. 7.63) and that the Department of Health and Children, health services providers and nursing organisations examine the development of appropriate systems to determine staffing levels (para. 7.63).

The Report of the Commission on Nursing (1998) recommended that preregistration nurse education be based on a four-year degree programme in each of the divisions of general, psychiatric and mental handicap (intellectual disability) nursing. The Nurse Education Forum was established in 2000 by the Minister for Health and Children to develop a strategic framework for the introduction of a preregistration nursing degree programme in general, psychiatric and mental handicap nursing. The four-year degree programme, encompassing supernumerary clinical placements and a 12-month rostered clinical placement as an employee of the health service, commenced in 2002-2006 (this placement was reduced to 9 months in 2006) . The decision to introduce an undergraduate nursing degree programme is widely regarded as being in line with international best practice developments shaping the nursing

and midwifery profession (Watson 2003; Leininger 2002; Carter 2001). These developments were spearheaded by the Nursing Education Forum in 2000, which addressed the recruitment and selection of student nurses, the educational aspects of any new programme and those aspects of the curriculum concerned with learning in practice (Department of Health and Children 2000b). A national review of the pre-registration BSc Nursing has commenced in October 2011, with two specific objectives: to review the nursing curriculum including the clinical components and to explore the workforce requirements for nursing graduates to meet healthcare needs, as health services reconfigure.

Since the Commission on Nursing in 1998, nursing and midwifery have been in a state of rapid change and a number of publications have identified both the potential and under-utilisation of nurses and midwives. These include the Scope of Nursing and Midwifery Practice (An Bord Altranais 2000). This framework intended to support and empower nurses and midwives to determine and make decisions about the expansion of their scope of practice. The scope of practice is defined as the "range of roles, functions, responsibility and activities which a Registered Nurse is educated, competent and has the authority to perform" (An Bord Altranais 2000, p.3). The publication of the *Strategic Framework for Role Expansion of Nurses and Midwives* (Department of Health and Children 2011) provides the current policy direction for the enhancement of nursing and midwifery roles. This framework explicitly requires a skill mix assessment when examining role expansion opportunities (p.6).

The 2003 Report of the National Task Force on Medical Staffing "Hanly Report" identified a plan for reducing substantially the average working hours of non-consultant hospital doctors and "considerable role enhancements opportunities for all nurses". In addition, the Task Force recognised that in line with the philosophy of the Commission on Nursing, nurses and midwives have the capacity to effectively expand their roles with the appropriate support and that students graduating from the preregistration nursing programme should be professional nurses (National Task Force on Medical Staffing 2003, p. 9). It considered that nurse graduates should be flexible, adaptable and reflective practitioners, integral members of the multidisciplinary team and should adopt a

lifelong approach to learning. This enabled nurse education to be transferred to the third level sector with the establishment of a four-year undergraduate nursing programme. Over the past decade some medical tasks have moved to nurses and the scope of practice of nursing has expanded to include prescribing of medicinal products, x-ray, cannulation, venepuncture and discharge planning. While this has been a positive development for the nursing profession, there are challenges in relation to the need for skills training for nurses in these new functions. There are also challenges of planning for the nursing workforce and these are discussed next.

2.2.3 Workforce planning and skill mix

From 1999 to 2007, Ireland experienced a "shortage" of nurses (Directors of Nursing 2000; Cassidy 2000). This "shortage" might seem curious given the five-fold increase in Registered Nurses (RNs) in Ireland between 1959 and 1999, the fifty per cent increase during the next decade, and the current 50 per cent excess of nurses in Ireland compared to the OECD average (OECD 2011). The traditional recruitment pattern to nursing, together with demographic trends, had produced a shortfall of entrants to the specialist divisions of nursing in particular mental health and learning disabilities nursing (Ryan 2009). This "shortage" reflects trends that had been associated with factors such as increased opportunities for school-leavers, travel opportunities, employment opportunities in the private healthcare sector and the lack of retention strategies.

Nursing as both a profession and a health service occupational group has been through significant changes in the last decade and has faced challenges in recent years arising from funding cuts and restrictions on recruitment. In the decade prior to 2009, there was a period of economic wellbeing where healthcare staffing levels reached unprecedented numbers compared to other European countries (OECD 2011). OECD figures have been contested by Irish nursing policy makers and nursing unions alike. Criticisms have been made that An Bord Altranais counts all RNs, rather than the number currently employed. Policy makers and unions are unhappy because the OECD ranks Irish nursing numbers employed as one of the highest in Europe. The unions are unhappy because it undermines their negotiating position for additional nursing. The most recent

OECD review (June, 2011) suggests that there are fifty per cent more nurses in Ireland than the average for the other OECD countries, with 12.7 nurses in Ireland per 1,000 population compared to 8.4 nurses per 1,000 population in the OECD states. Sources used in most recent review are more comparable than in the previous review. This is based on data for 2009 and 2011 in Ireland, while for other countries these data are for 2009 for some countries and 2010 for others countries. There are still difficulties in comparing data on Ireland with other countries. This was reiterated in the final report to the HSE based on the Feasibility Study into the independent examination of the potential for reducing nursing working hours in Ireland (2008, p.9), which states that:

> It should be noted although the OECD figures are based on head count data provided by the government statistics organisations, nursing registration bodies and health departments, the data are not standardised. For instance, the OECD data reported for Ireland include nurses on the inactive register within the calculations. It should also be noted that the reported Irish figures are based on head count and not WTE.

In 2005 and 2007, the Department of Health and Children on behalf of the Joint DoHC/HSE Working Group on Workforce Planning in the Health Services, requested assistance in workforce planning from the Expert Group on Future Skills Needs (EGFSN). In response, FÁS, on behalf of the EGFSN, developed a series of quantitative models and produced example simulation projections on the demand and supply of healthcare workers, with a view to assisting the DoHC and the HSE in healthcare workforce planning including nursing, midwifery and HCAs. The 2009 FÁS report *A Quantitative Tool for Workforce Planning in Healthcare: Example Simulations* outlined in its recommendations that:

> If there is no change in the way service is provided by healthcare organisations including acute general hospitals, and the population increases in line with the CSO projections, there will be a shortage of nurses and midwives and issues with the sustainability of the current healthcare model may arise. (p.12)

The study found that there were fewer than 55,000 nurses and midwives working in Ireland in 2007. This compared rather favourably with other OECD countries, with approximately 15 nurses per 1,000 inhabitants in 2007 (and 12.7 per 1,000 in 2009, OECD, 2011). The study projected that each year, on average, approximately 450 nurses and midwives are needed to maintain the "employment stock" in line with the population growth, while at the same time 2,450 are expected to be leaving the occupation, on average, per annum. Therefore, the total recruitment requirement is expected to be 2,900 (2,665 WTE) per annum, on average, over the projection period. Other points reflected by the report were that nursing is a predominantly female workforce, which has various implications such as replacement staff for maternity leave. The study outlined that there were just under 26,500 HCAs employed in Ireland in 2007 and that it was estimated that approximately 1,150 whole time equivalents would need to be attracted into the occupation in order to keep pace with the projected demand in healthcare in the future. However, the Feasibility Study, HSE (2008) cautioned that the use of non-qualified staff in support of registered nursing force is not universal.

Scott (2003) describes nursing skill mix decisions as being highly political in the sense that policymakers and other interested parties all have a vested interest in the potential opportunities to reduce cost effectiveness in acute hospital settings. The recent Irish National Partnership Agreement (2010) specifies that healthcare employers and employees must agree to be flexible within their working environment and with each other. This provides the opportunity to explore opportunities to examine skill mix within the Irish workforce to improve service provision, increased efficiencies and better patient outcomes. The Department of Health and Children (2010, p.17) outlined in this context that:

> Management will be reviewing existing nurse staffing levels with a view to securing reductions and greater flexibility (temporary redeployment of nurses from one ward to another). Changes in this regard will respect the provision in the agreement about safety and quality.

However, the Irish Nurse and Midwives Organisation rejected this agreement (2010). Though ultimately it was accepted by the Irish Congress of Trade Unions (ICTU), the industrial relations landscape in Ireland lacks clarity as the agreement is not binding, hence the INMO are not actively engaged in the Irish National Partnership Agreement (2010) due to this anomaly.

The OECD review of the Irish public services acknowledge the increased workforce planning analysis in Ireland and highlighted a number of areas, including the high ratios of nurses in Ireland compared to other OECD countries, and potential for improved skill mix between nurses and HCAs. Commitments in relation to improved skill mix are reported in *Towards 2016* (Government Publications Office 2010). Also, the SKILL project aims to develop accredited training programmes for assistant grades. A number of 'assistant' grades including HCAs have been established, in collaboration with the SKILL Project and the professions, in the areas of health care, dietetics, physiotherapy, occupational therapy and speech and language therapy.

2.3 Conclusion

Significant health and nursing policy developments have impacted on the development of the nursing profession and practices over the last decade in Ireland. It is evident that nursing must demonstrate its value to those who have the power to affect or determine the nature of nursing through policy decisions and the allocation of resources. The nursing profession is evolving within the broader context of healthcare, healthcare policy and indeed society at large. Factors influencing the development of healthcare and nursing policy are having a consequent effect on the changing role of the nurse and impact on nursing skill mix or subsequently challenge the need to explore nursing skill mix in Ireland. Throughout this chapter, the impact of policy developments has been explored in relation nursing skill mix in acute general hospitals in Ireland. There are long-standing challenges that need to be addressed as current strategies have their origins in the different policy contexts. A literature review is presented in the following chapter to identify research evidence on skill mix methodologies and outcomes, and also the gaps in research in relation to nursing skill mix determination.

Chapter 3
Literature Review

> We have no map of the future, only a compass. The only road we can have to a more generous and sustainable future will be one we discover and make for ourselves, starting from where we actually are, with people we actually have, learning as we go. (Harte 2006, p.22)

3.1 Introduction

This literature review concentrates on recent and relevant research to identify the most important gaps in our knowledge of the topic of nursing skill mix related to contemporary Ireland. As a piece of writing, according to Cooper (2010), this literature review is defined by a guiding concept of the research objective and the argumentative thesis.

3.2 Source of literature

Nursing skill mix is not a new concept for many worldwide healthcare organisations as adjustments to nursing skill mix are a common component of everyday planning. Using the concept of skill mix to plan care and staffing for patients is a common responsibility of management. In Ireland, however, the concept is relatively new and is perceived as both challenging and welcomed by those within the nursing profession. The review sets out to clarify the relevant terminology, provide an up-to-date account of related issues, and establish the limits of existing knowledge about nursing skill mix. It was guided by the work of Boote and Beile (2005) to ensure relevant and significant literature synthesis, using their five-category rubric for evaluating literature including coverage, synthesis, methodology, significance, and rhetoric.

The literature reviewed was periodically accessed over the full course of this study. The literature search included publications from 1960–2011. The search was conducted using a variety of databases covering the fields of nursing, health, and health services management including: CINAHL, Medline, British Nursing Index, ERIC, and Cochrane library, accessed through HealthSTAR, BioMed, Ovid and HealthGate search engines. The search also embraced the Royal

College of Nursing (RCN), UK; the Royal College of Nursing, Australia (RCNA); the American Nurses Association (ANA); and a hand-search of leading journals and archival material in the libraries of Dublin City University, National University of Ireland, Galway (NUIG), the Irish Nurses and Midwives Organisation (INMO) and An Bord Altranais (Irish Nursing Board). In addition, information was accessed from both professional and government websites. The following subject headings were searched: nursing role, skill mix, RN, workload methods and quality. These terms delivered tree-mapping displays that included professional skills/roles of nurses, skill mix, workload, job description, standards, patient satisfaction, utilisation, education, non-nursing duties/tasks, care assistants, nursing care assistants and HCAs. These were accessed and the search yielded many citations and a lesser amount of studies. The Department of Health and Children in Ireland also provided policy documents as requested. The principles of relevance, depth, breadth and honest presentation, Holmes (1996), guided the analysis. Even though the search reviewed literature from the 1960s to 2011, the majority of the literature in relation to the topic nursing skill mix was published between the 1980s to early 2000.

The findings from this review are presented in a number of inter-related themes from the literature; namely:

- Role theory
- Ambiguity of nursing roles
- Skill mix definitions
- The role of HCA in nursing skill mix
- Cost containment and skill mix determination
- Quality of care and skill mix
- Methods to determine skill mix

This study fits within the greater corpus of management and organisational theory in relation to optimising the effectiveness of the workforce. This study will contribute to the organisational and management literature as it is applied to healthcare settings by examining in depth how nursing roles and decisions about how skill mix is determined in acute general hospitals to improve the overall quality of patient care delivered by healthcare organisations. Within

organisational and management literature, role theory has particular relevance to this study, as examining the role of the nurse is the starting-point of this study.

3.3 Role theory

Role theory was explored to highlight the relationship between nursing roles and skill mix determination methods. This is based on the premise that dynamic factors in contemporary health environments can challenge traditional nursing roles, in particular those working in acute general hospital settings. Nurses' perceptions of their role are influenced by societal attitudes, government policies and advancement in professional developments (Brookes 2003).

Role theory seeks to explain behaviour patterns and their relationship to people's respective social identities and social situations. Role theory explains the concept of roles by assuming that each person is a member of some social position and thus holds expectations for their own behaviour and subsequently the behaviour of other persons such as nurses. Biddle (1986, p.42) describes role theory as: "a triad of concepts patterned and characteristic social behaviours, parts or identifies that are assumed by social participants and scribes or expectations for behaviour that are understood by all".

Roles are the building blocks of social institutions and social structures such as hospitals and the regulations or structures that are imbedded in their culture. Most of the theory starts with the implicit assumption that the status or position antedates the role and that the role is in some sense imposed on the individual. This assumes that the patterning of behaviour that constitutes roles arises initially and recurrently out of the dynamics of interaction and that status and positions arise to place roles in a social organization (Biddle 1986).

According to Biddle (1986) human behaviour is guided by expectations held both by the individual and by other people regarding different roles individuals perform or enact in their daily lives. Roles consist of a set of rules or norms that function as plans or blueprints to guide behaviour. Roles specify what goals should be pursued, what tasks must be accomplished, and what performances are required in a given scenario or situation (Nagle 2006). Role theory holds that a

substantial proportion of observable, day-to-day social behaviour is simply persons carrying out their roles. Macionis (2006) outlined that role theory is, in fact, predictive. It implies that if we have information about the role expectations for a specified position, for example, of a nurse, a significant portion of the behaviour of the persons occupying that position can be predicted.

Organizational role theory focuses on social systems, which are preplanned, task-oriented, and hierarchal (Bates 1975). Roles are associated with social positions and are generated by norms, or expectations, which may vary according to the official demands of organizations as well as those of informal groups. The abundance of sources for norms produces role conflict. This conflict in turn causes role strain, and the theory examines the variables that affect the choice of strategies for handling the situations**.**

Contemporary nursing in Ireland is still characterized by ambivalence concerning the legitimate boundaries of nursing roles and thus, too, the role of the nurse in acute hospital settings. It is difficult to capture the 'invisible' aspects of nursing care (Royal College of Nursing 2009); however, attempts are being made to do so and to include activities such as coordination of care, managing the bureaucracy, providing leadership and clinical judgement (McWilliam and Wong 2006; Booth and Waters 1995). More recent trends in hospital administrative roles in Ireland, where the need for a senior nurse to manage nursing services, has and continues to be questioned (HSE 2012) and the demarcation of nursing and non – nursing roles has become increasingly emphasized, are all instances that may reflect the role ambiguity evident in the early development of nursing (Rushforth and Glasper 2000).

In addition, it is being recognized that the organizational context in which healthcare is delivered has implications for patient outcomes (Aiken *et al.* 2007). Aiken's work suggests that organizational models which result in greater nurse autonomy, more control by nurses of resources and better relations with physicians yield better patient outcomes. Cole (1994) also suggests, from studies of nursing development units, that this is attributable to the personal and professional development of individual nurses and their focus on delivery of high quality nursing care.

3.4 Ambiguity of nursing roles

As a consequence of reform and major workforce restructuring initiatives in Ireland, changes in skill mix such as the introduction of HCAs and the introduction of new clinical roles have taken place with little formal monitoring and evaluation of the effects of these changes. The National Council for Nursing and Midwifery in Ireland (2005) in a study evaluating the impact of the role of Advanced Nurse Practioners found that some data was being collected to measure care by Advanced Nurse Practioners. The data were mainly descriptive and the study highlighted a need for evaluative research on the impact of Advanced Nurse Practioners on patient care. The study did, however, suggest that outcomes of Advanced Nurse Practioners roles in the context of care are positive in terms of providing holistic, clinical, autonomous, and timely care for patients. This is further supported in the SCAPE (National Council for the Professional Development of Nursing and Midwifery 2010) report that outlined that both Clinical Nurse Specialist and Advanced Nurse Practitioner roles impact positively on patient care. Similarly, the report suggests that outcome measures need to be developed to measure the effectiveness of the quality of nursing care provided by these roles in the future.

It is not surprising then that the term nursing skill mix is not clearly defined, given that the nurse's role itself has always been considered ambiguous. To this end it is sometimes difficult to delineate the boundaries of nursing roles. For example, it may be appropriate for a HCA to feed a patient, while in another instance, due to disease pattern and treatment, it is more appropriate for a nurse to pursue this task because of the high level skills required to ensure the safety of the patient. Over the last number of years, several new nursing roles in Ireland have evolved which may indicate the increasingly diverse nature of nursing activities, particularly within acute hospital settings, such as prescribing of medicinal products and x-rays. An impetus for creating new roles has been the desire to improve the quality of healthcare and the development of these roles are likely to continue as nursing professionals strive to explore new ways in delivering quality of health care. Whether this has been achieved remains contentious. Studies have highlighted the complexities associated with clarifying nursing roles and associated role ambiguity. Throughout history, the Irish nurse

has been viewed as everything from a domestic servant (Abel-Smith 1960, p 93), to someone who was "inferior, subservient or decorative and who did what they were told by doctors" (McCarthy 1994, p. 11). More recently the changing role of the nurse has been influenced by changes in health policy, globalisation, and advancement in technology and medicine (Horton 2007). But these changes may have significant implications for the future of how nursing skill mix in Ireland is determined, particularly as the delivery of healthcare is evolving rapidly, for example, as seen in the shift from acute hospital to primary care settings.

There is still strong evidence of confusion about nursing roles within the nursing profession in the United Kingdom (Watson *et al*. 2008). Few attempts have been made to clearly delineate the dimensions and associated expectations of the role of the nurse working in acute hospitals and such a plethora of interpretations tend to mystify rather than clarify the role of the nurse. Kitson (2003), in the UK, outlined that acceptable definitions of the terms "care" and "nursing" have yet to be reached and she argued that until a clearer perception of the concepts of care and nursing was arrived at, the profession would be limited in its ability to develop its expertise or to set standards related to the quality of care. This argument is of particular interest in an Irish context since the implementation of the Report of the Commission on Nursing in Ireland (1998) and the introduction of a range of new nursing roles. Since the Commission, a plethora of new roles such as senior staff nurse, Clinical Nurse Manager 1 (CNM1), Clinical Nurse Manager 2 (CNM2), Clinical Nurse Manager 3 (CNM3), Clinical Nurse Specialist and Advanced Nurse Practioners were implemented to improve the quality of patient care, but the impact of these roles on patient outcomes and on the profession of nursing has not yet been fully evaluated.

Some of the literature supports the theory that role confusion can be as a result of inadequate or unclear job descriptions and poor educational preparation of nurses. The findings from a UK study by Perry *et al.* (2003) based on data collected through interviews with nine Registered General Nurses and twelve Care Assistants employed in four different nursing homes in England showed that nurses had difficulty defining and limiting their roles because they had all-embracing roles, doing "everything and anything". The authors recommended

that job descriptions needed to be clearly defined setting out the roles and responsibilities of both RNs and HCAs so that caregivers at all levels understood each other's roles and worked together to co-ordinate, plan and provide care. However, this was a single case study using mixed methods (survey, interviews, participant observations, focus groups and documents) that generated an in-depth account of HCAs' work in one organization, which would be difficult to generalise to other similar settings. The study was also based on what HCAs said they do, rather than on the basis of what they actually do in practice. It also explored how and whether the work of HCAs is adequately supervised, the tensions between the work of HCAs and RNs and the subsequent effects on teamwork and patient care. This provides a very valuable perspective for understanding the role of RNs and HCAs and their implications in relation to determining nursing skill mix.

If roles and responsibilities of both RNs and HCAs are not distinguishable, RNs will find it difficult to delegate responsibilities to other members of the team such as care assistants, which may compromise good quality care. Acute hospitals have to have a mix of specialised and general staff to match the specialties needed by the patient. Selection of both registered and non-RNs can sometimes be imprecise. The pluralisation of acute healthcare provision has led to some nurses becoming very specialised. For example, private hospitals will try to compel every possible specialty and expand the scope of practice amongst general nurses. In a large public tertiary hospital there is the capacity to deploy a senior nurse to theatre without having to utilize these nurses elsewhere in the hospital as their deployment is specific to specialisation. However, in a smaller private hospital with less specialisation, there tends to be a requirement for all nurses to be competent to practice in all areas to meet service needs. This approach is driving general nursing practice as compared to specialisation of nursing practice. Marshall and Luffingham (1998) suggested that much conflict and confusion surrounds the title and role of the specialist nurse, leading in some instances to disharmony between general and specialist nurses. They suggested that too many highly specialized nurses in a general area may lead to a deskilled workforce and fragmented care, resulting in elitism, conflict and abuse of the title. Despite the benefits associated with advancing nursing roles, some caution

is required with regards to how these roles are effectively integrated into multi-disciplinary teams.

Additionally, Bryant and McGillis Hall (2005), in their paper on skill mix decisions made by nurses in acute hospital, settings stated that the implications for the workforce of changes to role definition and skill mix were great, and that roles for nurses were often being developed without reference to educational preparation, licensing requirements or role definition. As this development could be somewhat haphazard, there is a need to introduce new roles in a planned manner working from a knowledge base of exactly what the role of nurses would entail. Bryant (2005) also asserts that determining the skill mix of health professionals, particularly involving nurses who were educated for new roles, was essential for both patient outcomes and the cost-effectiveness of new roles. This highlights the conundrum which arises from the fact that despite there being no consensus on how to define or obtain optimal nursing skill mix, it is often regarded by the nursing profession in Ireland as an essential factor in ensuring quality patient care. An Bord Altranais Scope of Practice Framework Document (2002) suggests that nurses can learn specific advanced skills that fall within their scope of practice and apply them in clinical settings.

However, the impact of such role enhancement of nurses remains uncertain. Some studies have found improvements associated with organisational innovations that draw on nurses with advanced skills, including nurse-led clinics or specialist nurse-led initiatives (Connor *et al.* 2002). Other studies have found fewer or no benefits (Loveman *et al.* 2005). There are variations in the nursing interventions in these studies, which may lead to inconsistencies in the findings and make it difficult to draw conclusions about the effects of enhanced nursing roles on patient outcomes. These studies do not identify whether any observed differences are due to the nurses' roles or to other intervention-related factors (e.g., resource intensity, increased follow-up, access to a multidisciplinary team). Thus, although many studies have revealed connections between nurses' role enhancements and safe and effective care or improved patient outcomes, it remains uncertain whether the benefits are due to specific interventions or nurses' roles. In turn, the evidence regarding the opportunity costs of service developments and gains in terms of health outcomes is scarce and often

conflicting. This issue was highlighted in the Evaluation of Clinical Nurse and Midwife Specialist and Advanced Nurse and Midwife Practitioner Roles in Ireland, referred to as the SCAPE Study (Specialist Clinical and Advanced Practitioner Evaluation) (2010) Report, which recommended that specific key performance indicators be developed for core Clinical Nurse Specialists and Advanced Nurse Practitioners, along with clinical outcomes to facilitate future audit and research. It is suggested that specific clinical specialty outcomes be developed and with clear governance structures and systems, in order to reduce diversity of clinical outcomes and maximize impact.

In Ireland a study by McCarthy (1994) examined the activities of students and staff nurses at a major general adult teaching hospital in Dublin, based on a methodology employed by Ball and Hurst (1990) and Roper, Logan and Tierney's model of nursing care **(**Roper, Logan and Tierney 1980). The findings showed that RNs carried out more activities in relation to communication and specific nursing treatments/procedures and clerical functions. Student nurses carried out a greater number of activities related to personal cleansing and dressing, elimination, eating and drinking, mobilising, and cleaning/housekeeping. The implications of the study are that it is only possible to evaluate the appropriate nursing skill mix requirements if nursing workload, patient needs and their required care and the level of non-nursing administrative tasks are fully considered. The study has further implications for the inclusion of communication skills and ongoing competency development in education and training, the role of care attendants, and the impact on nurse roles of information technology, technology and pharmacological interventions.

Though, it may be argued that RNs would welcome the opportunity for a more fluid and progressive role for care attendants in nursing teams, managers could otherwise continue to decrease registered nursing staff numbers with no alternative staff substitution. A fundamental re-evaluation of the current competencies of non-registered caregivers, such as HCAs, and of their potential to progress into RN training should be considered and costed. Appointing nursing assistants in the context of nursing skill mix could be contested in the future if this is not cost effective. The Irish literature illustrates that student

nurses engage in a variety of tasks and activities (Ryan 2009). Therefore, student nurses were trained both in nursing and non-nursing tasks and were essentially required to perform both. This may in some ways have contributed to the blurring of the boundaries around the current role of a staff nurse working in Ireland to be further explored in this study.

Role confusion can exist at any level or grade within healthcare including the nursing profession. Lack of role clarity may cause reduced productivity, often because lack of role clarity leads to anxiety, confusion, interpersonal conflict and lowered productivity. In a study of establishing role clarity in clinical governance for members of boards in Irish healthcare, Boyd (2008) found role confusion so corrosive, so toxic, in nine enquiries into healthcare scandals in Ireland that she recommended that role clarity become the seventh element of a Clinical Governance Model in Ireland. Role confusion was a main factor in each of the nine inquiries analysed and establishing clear responsibility for clinical governance and corporate governance (role clarity) would have prevented the failures. She also found that the level of confusion and absence of role clarity in the Lourdes Hospital, much of it at nursing, midwifery and nursing management level permitted and fertilised the greatest scandal covering peripartum hysterectomies in Irish acute maternity healthcare history (Government of Ireland 2006). There was lack of clarity of the various grades of nurses, midwives and support staff working with in the Lourdes Hospital which relates to poor governance and lack of clarity of staff roles. Issues related to weak institutional/ hospital governance will constrain nursing skill mix optimisation. When there is evidence of poor skill mix, lack of accountability of staff leads to poor governance. It is therefore imperative to enhance collaborative working within the multidisciplinary team to facilitate harmonious work across professional divides to ensure the most appropriate use of nursing skill mix delivers the requisites of care and prevent lack of governance and roles of nursing staff within healthcare organisations.

An alternative perspective of the absence of role clarity of the nurse was offered by Kitson (2003) in the United Kingdom based on a comparative analysis of the professional (nursing care) and lay-caring relationships. She described nursing as

a set of characteristics which identifies caring activities implicit to the professional nurse–patient relationship. The ability of the nurse to carry out these activities emerges as one aspect of its therapeutic nursing function. Therefore, if nursing is not well defined in the context of their therapeutic functions, in the absence of therapeutic interventions, conflict may emerge in relation to who and how best to delegate therapeutic functions to members of the various nursing grade. This may affect how nursing skill mix is ultimately determined. Quality of care depends as much on the expectation, knowledge and perception of the patient as on the actual quality of nursing delivered. General skills such as interpersonal skills and judgement needs to form part of the skill mix framework considered when a template for nursing skill mixes is constructed for a care setting. Although nurses use objective methods such as evaluating planned standards of care as part of their role, nurses also use more subjective methods such as peer review and intuition. The value of these less formal methods of evaluation are difficult to recognise but the use of a more formalised process of peer review using reflection as its foundation could enable nurses to achieve measurable outcomes in the quality of nursing care, with a potential impact of nursing skill mix.

With regard to the professionalism of nursing, Takase *et al.*'s (2006) study of a sample of 346 Australian nurses found that the nursing profession in the state of Victoria had given an extravagant amount of concentration to the subject of linking professionalisation and role theory. Consequently, if the nursing profession wished to continue on the trail of professionalisation, nurses needed to return to and reconsider its foundations, accomplishments and clarity relating to the various roles of nurses. It is difficult not to agree with Takase *et al.* (2006) regarding their views as nursing has devoted a profligate amount of concentration on the subject of professionalisation in Ireland. Professionalisation and clarity of nursing roles are important to consider in the context of nursing skill mix though perhaps if the profession of nursing wishes to continue on the path of exploring their professionalisation, nurses need to return to and reconsider their foundations and accomplishments and consider where nursing has evolved from to establish their identity and value, and consequently the way forward to ascertaining professional status.

Considerable confusion regarding definitions, roles, functions and educational requirements permeates both in nursing and policy circles internationally in relation to the roles of clinical nurse specialist and advanced nurse practioners. According to Daly and Carnwell (2003), the profusion of new nursing titles in the United Kingdom had led to much confusion in the minds of healthcare consumers, managers, nursing practitioners and educationalists regarding the meaning, scope of practice, preparation for, and expectations of such roles. Titles such as Clinical Nurse Specialist (CNS), Nurse Practitioner (NP), Advanced Nurse Practitioner (ANP), Higher Level Practitioner (HLP) and more recently Nurse Consultant (NC) were adopted in a variety of care settings with little understanding or consensus as to the nature of or differences between such roles (Daly 2003). Consequently, nursing practice may be perceived as becoming more diverse than ever before, leading to the boundaries of inter- and intra-professional practices becoming increasingly blurred, with consequences for the nursing profession and ultimately patient care.

Even though this study was conducted over eight years ago, it is relevant in the context of Irish nursing today since the proliferation of new roles, such as Clinical Nurse Specialist and Advanced Nurse Practioners, since 1998. Some health care professionals challenge the significance of these roles. Nevin (2005) asserted that nurses are generally positive in their attitudes in relation to their advancement of roles, but they have concerns about their perceived increased vulnerability to litigation, exploitation, and fragmentation of their nursing role by medical practioners as they may encroach on other healthcare professionals' responsibility. The elements of inter- and intra - professional practices identified need to be fully considered to effectively drive towards clearer working practices in the future. However, the growing emphasis on clinical governance structures of acute general hospitals in Ireland reinforces the need for ongoing clarity of nursing role effectiveness and clarity in order to meet the challenges and uncertainties of increasingly blurred nursing professional boundaries (HIQA 2010).

These factors have contributed to the emergence of some confusion around the role of nurses in acute hospitals both in Ireland and abroad. Given that there is confusion about the actual roles of the nurse, it stands to reason that there would be confusion in how best to "mix" various skills. This confusion was acknowledged by Takase *et al.* (2006) in Australia who described a trend in hospital administration to employ senior staff nurses to support nursing management services. They questioned the merit of this and suggested that increasing the number of roles in nursing could in effect lead to role ambiguity rather than role clarity as nurses have the ability to adjust themselves to their actual practice and needs of patients or because they have the expertise to improve their practice.

The National Council for Nursing and Midwifery in Ireland's evaluation of the effectiveness of Clinical Nurse/Midwifery Specialist roles (2004) found that the introduction of the role of clinical nurse/midwife specialist in Ireland has been successful in responding to service demands and needs in a flexible and innovative manner. The study suggested that the educational component of the role requires further development and that there is a need for planned, coordinated review of the role at local, regional and national levels, linked closely to service planning. This is important from the perspective of how nursing skill mix is determined particularly on the future shape and structure of nursing skill mix in Ireland if clinical nurse specialist roles are not continuously evaluated in the context of service planning.

In achieving and maintaining clarity regarding the nursing role in Australia, Takase *et al.* (2006) argue for a continuous adjusting of the role preferences of individuals to their existing or available roles. In other words, this type of congruence could occur as a result of nurses abandoning some of their existing roles to limit their involvement in direct patient care. Although it has been assumed by the nursing profession that experienced nurses perceive less role discrepancy than inexperienced nurses, either because the former adjust themselves to their actual practice or because they have the expertise to improve their practice, this assumption has not been tested. Nursing role discrepancy cannot be resolved by having more clinical experience, according to Takase

(2005). While clinical experience enhances nurses' conceptions of their ideal roles, it can also lead to role discrepancy if there are organisational barriers that prevent nurses from engaging in their ideal roles. Therefore, it is important to find a way whereby nurses can actualise their ideal views of practice in the current healthcare environment. To achieve Takse's type of congruence, Irish nurse competencies may need to be revised to include new competencies, skills and qualifications to support the role of nurses within a rapidly changing health care environment (O' Halloran 2009). This will include, for example, prescribing skills such as medical products and x-ray, competence and qualifications, interpersonal and communication skills, and problem solving. It is crucial that commitment from nursing policy makers in Ireland is forthcoming to review nursing roles in the future, to address nursing role ambiguity and to ensure nurses fulfil their true role potential in the delivery of healthcare.

Improving and ensuring patient care, efficiency and effectiveness has become a key feature of the Irish clinical directorate model (O' Shea 2010). This has implications for decision-making about skill mix, and in a nursing context are highly relevant given size and cost of nursing in Ireland. In Northern Ireland, McKenna *et al.* (2006) found an increase in the number and type of innovative nursing and midwifery roles over the last ten years. Concerns that emerged included professional identity and number of innovative roles, stimuli for role development, service commissioning, infrastructure support, and perceived value for money. They concluded that the impact of innovative nursing and midwifery roles on other members of staff, notably Health Care Assistants, was needed in improving care outcomes and gaining support and commitment of colleagues. However, O Shea (2003, p.171) argues that new innovative nursing roles in Ireland have led to ambiguity of the role of the nurse within the health care team, while Pearson (2003) suggests that contemporary nursing roles are characterized by ambivalence.

The need to evaluate the impact of innovative nurse roles has been highlighted by McKenna *et al.* (2006). They suggest that this is also necessary to determine whether innovative role-holders were pioneers in the development of future nursing or whether they were merely responding to the workforce needs of the

medical profession or the requirements of the health service to cut costs. The international literature evidence does suggest that innovative nursing roles make a difference to patient care, even if they are responding to the workforce needs of other professionals (Fulton *et al.* 2011; Gilmartin 2007; McKenna 2006). However, the literature does not offer guidance regarding the most effective nursing skill mix in providing the best quality care to patients. In addition, there are relatively few economic evaluations of changes in nursing skill mix relating to the introduction of new innovative nursing roles. As a result evaluation of new nursing roles is essential in order to measure their effect on the quality of patient quality care outcomes, cost-effectiveness and to how best to secure the support and commitment of other colleagues working within acute general hospitals.

There is current interest by senior managers and policy makers in the potential for providing nursing services through different combinations of nursing skills (DoH 2012). Skill mix continues to be an important debate in nursing in Ireland due to the current economic crisis and increasing demands for nursing care arising from demographic changes. Whilst there have been pronounced changes in the roles of nurses there has been little evaluation of the impact of these changes on patient care and outcomes (Buchan 2004). Changes in nursing roles and skills over time are important in the context of nursing skill mix. The discussion that follows will examine definitions of nursing skill mix and the available evidence on the role and impact of nursing skill mix.

3.5 Skill mix definitions

Skill mix is somewhat of a loosely defined term that has come to mean different things to different individuals. There is no consensus on the definition of the term skill mix. It has been described as "a somewhat amorphous term that has come to mean different things to different stakeholders" (Bourgeault *et al.* 2008, p. 5). Over the last number of years, a new wave of research has opened up, seeking to understand the meaning of skill mix, particularly in the context of nursing. Several issues have emerged in the international literature, in particular the complexities surrounding the definitions, and interpretation of the term skill mix as it applies to the nursing profession, employment of unqualified healthcare staff and the impact of shrinking financial resources.

Skill mix is a broad term that has been identified as:

> …achieving equilibrium between nursing supply and demand factors by identifying what appropriate skills are available to meet service needs in the most cost-effective way. (Richardson *et al.* 1999, p.121)

More specifically it relates to a mix of skills and staffing levels:

> …mix of skills or competencies possessed by an individual; ratio of senior to junior grade staff within a single discipline; or mix of different types of staff within a multidisciplinary team. (Sibbald, Shen and McBride 2004, p.3)

Based on these definitions the term skill mix in nursing therefore has the following common elements, between nursing demand and supply and the cost factors associated with the employment of various grades of nurses and other care staff, the balance between qualified and unqualified staff, and the examination of the skills of different staff groups. But skill mix is rarely examined in a theoretical way by organisations (Buchan 2002). Instead they have to adopt a pragmatic approach which must take account of the realities of their priorities and resources. Other terms used in the literature for similar concepts include task shifting and task delegation, which involves shifting tasks from one group of health care workers to another lower-level group or to a new group of workers entirely. Specifically skill mix approaches arise from both changing professional roles and from the factors driving the reconfiguring or innovations that take place in the provision of services.

It is also apparent from the literature that there is a continuing tension between clearly defining the meaning of the terms nursing skill mix and grade mix. Flynn (2003) argues in her review of nursing workforce planning in Ireland, that skill mix is a term without exact definition and is variously used to refer to the mix of disciplinary groups involved in the delivery of a service, a mix of skills within a disciplinary group or the mix of skills possessed by an individual. Therefore, Flynn (2003) acknowledge difficulties in describing the term skill mix in

nursing, and suggests that there is a need to clearly define the meaning of nursing skill mix.

Although there is some evidence which offers support in recognising the differences between these terms grade mix and skill mix, it is limited. In practice, most of the published studies on skill mix relate to an organisationally based description of an approach to determining grade mix, such as the number of similar nursing grades working within an organisation, rather than an evaluation of an approach of a particular mix of grades. Currie *et al.* (2005) suggest that there has been a significant focus in the literature on the debate about what actually represents a precise definition or meaning of the terms staffing levels or grade mix as compared to the term skill mix, and argues that there is a requirement for further exploring perceptions of the scope of nursing skill mix to ensure clear definitions of skill mix in the future. Particular reference is made to prerequisites for achieving optimum skill mix by Carr-Hill, Currie and Dixon (2003) in the UK and even though their article is eight years old, their views are still particularly important within a skill mix debate as their review emphasised that there were unfilled gaps in knowledge especially about the detailed understanding of the term skill mix and the process of implementation of skill mix changes within organisations.

Currie *et al.* (2005) and Carr-Hill, Currie and Dixon (2003) also suggest that skill mix is a somewhat nebulous term to define and thus difficult to implement. Currie *et al.* (2005) suggest that the term skill mix is used interchangeably by the term grade mix, therefore leading to a misinterpretation of the meaning of the term skill mix which poses significant challenge to implementing nursing skill mix effectively within acute general hospitals. Despite conflicting findings, a number of studies and systematic reviews suggest that a richer staff mix may be associated with better outcomes and fewer adverse events for patients. The evidence, however, is highly limited by practical limitations and methodological shortcomings (Rafferty 2009). While many studies have reported positive impacts from enriching staff mix, they do not offer clear guidance about ideal thresholds in terms of nurse: patient ratios or the proportion of different categories of staff members on teams. More fundamentally, the staff mix

perspective that emphasises numbers and types of personnel gives less attention to the conditions that determine how staff members' skills are used. Despite the often rhetorical use of skill mix to describe the different options for deploying health care personnel, the focus is, in reality, not on skill but on grades, educational qualifications, job titles and duration of experience that are, at best, proxies for skill levels. This raises important questions about the need for an effective system of Human Resources optimisation that is not restricted to the numbers and types of personnel available, how staff members work to their full potential and how a dynamic approach to skills management can be put in place.

With regards to nurse–doctor skill mix, Keyzer (1997) identifies four models for doctor- nurse skill mix: the nurse as the surrogate doctor, the doctor's assistant, the complementary practitioner and the needs-led practitioner. In particular, the complementary practitioner and the needs-led practitioner illustrate an expanded nursing role and provide a distinct difference in the philosophy of care, which focuses on user need rather than being service-led. Sibbald *et al.* (2004) provide a more useful framework for looking at nurse- doctor skill mix, which includes enhancement – extending the roles or skills of a particular group of workers; substitution – working across professional divides or exchanging one type of worker for another; delegation, moving a task up or down a uni-disciplinary ladder; and innovation, creating new jobs by introducing a new type of worker (OECD 2004). This is useful as the skill mix definition includes nurses and doctors whereas the focus of this study includes nurses only. The term skill mix is usually used to describe the mix of posts, grades or occupations in an organization; this is more accurately referred to as grade mix. It also refers to the combinations of activities or skills needed for each job within the organization.

This definition is beneficial in that it clarifies the importance of differentiation between the difference in skill mix and grade mix and the importance of skill requirements that are needed to fulfil a role when defining skill mix. It is the multiplicity of, and the combination of, skills needed for each job that provides the most challenge in nursing skill mix in acute healthcare. This is particularly relevant to nursing skill mix as nursing in Ireland is organised by divisions and specialities. Studies that purport to be studies on skill mix often show that grade

mix is being measured rather than skill mix (Adams and Bond 2003). Skill capacity is more than grade; it encompasses qualifications, experience, and competencies. Whilst it may be presumed that higher grade equates with more skill, grade does not always reflect the skills of the individual nurse. However it could be argued that skill mix is intrinsically linked to grade mix but making generalisations about results is therefore a challenge, resulting from a lack of clarity in grade definition. This confusion must be discussed further because it impacts on how nursing skill mix in acute healthcare is determined.

The challenges of defining grade mix compared to skill mix were highlighted by Chant (1998) in a UK study on doctor nurse substitution. Grade mix reviews considered the appropriate grades for certain tasks, costs and activities, whereas skill mix reviews looked at the skills within those grades. Misunderstandings between grade mix and skill mix were found by Adams and Bond (2000) to lead to problems, for example, with regards to the mix of posts, grades or occupations in an organization or the combinations of activities or skills needed for each post. However, acknowledgement of this has led to a greater clarity in nurse roles and less ambiguity of the role played by nurses in the health care team.

Limitations inherent in studies on skill mix arise because of the largely qualitative nature of the subject and the context in which they took place, for example, as a result of political, policy and financial drivers (Bryant 2005). These factors restrict the possibility for comparability and application to other settings. Buchan *et al.*'s (2000) report for the WHO on skill mix in health highlight three main limitations of research on skill mix. First, most studies emanate from the USA and focus either on skill mix within nursing or skill substitution of physicians with nurses. Second, most studies gave no reason for the approach to skill mix chosen and insufficient information about the organisational setting. Third, most studies did not provide any evaluation of the quality and cost to enable any objective analysis of the skill mix studied. As a result the report cautions against reaching general conclusions on available research on skill mix, as it was true only to the time and place in which it was undertaken such as the number of bed in the organisation, methods to measure patient dependencies and the ward environment/design.

3.6 The role of HCAs in nursing skill mix in Ireland

The changing roles of RNs have direct implications for the roles of HCAs. As nurses take on extra duties and responsibilities they need to concede some of their role to HCAs, but this has implications for nurse managers. The competence of HCAs to carry out nursing work needs to be reassessed in this context and there needs to be ongoing monitoring and supervision of their work to maximise, and further develop their contribution to patient care. As nursing roles, scope of practice, increased workload, demand for more specialised services increases and patient expectations rise there will be a greater need for more flexibility from nurses that assistants may not be able to fulfill (Shannon 2007).

The issue of the role of the healthcare assistant in nursing skill mix in Ireland and elsewhere centres on the debate relating to the optimal proportion of qualified nurses versus unqualified staff members within care teams in acute hospitals. There continues to be a tension between the use of qualified and unqualified staff, particularly in the cost and quality dimensions (Crossan and Ferguson 2005). The term 'healthcare assistant' currently as used in the Irish context, has many equivalents throughout the literature. In the United Kingdom, the non-professional nursing helper is referred to as auxiliary, healthcare assistant and support worker (Dewar and Macleod Clarke 1992; Edwards 1997a, 1997b), generic support worker, clinical support worker, healthcare support worker, care team assistant, nursing assistant, ward assistant, community care worker, home carer, scientific helper, doctor's assistant and even bed maker (Thornley 2000). Supporting literature from the USA highlights the use of up to 65 terms: the principal one being unlicensed assistive personnel (UAP), but also incorporating titles of aides, attendants, technicians, assistants and surgical technologist (Wurstner and Koch 1995).

In the context of this discussion it must be noted that these titles can refer to different jobs, roles and not just non-professional carers. These titles refer to major functional categories for the unlicensed personnel, i.e. clinical and non-clinical (American Hospital Association, 1989). In Australia this grade of worker

is known variously as assistant in nursing, personal care assistant and direct care worker (Gleeson 1998), assistants in nursing and personal care attendants (Royal College of Nursing 1996). Although HCAs or equivalents offer a way to support qualified nurses in their work practice, the plethora of titles used to describe HCAs interchangeably is confusing and may lead to role ambiguity for all, both multi-disciplinary staff perspective and for the patient.

The impact of role substitution by HCAs remains uncertain. Some studies found improvements associated with quality patient outcomes, while others found few or no benefits. Although many studies show that role substitution can lead to safe effective care, it remains uncertain whether the benefits are due to specific nursing interventions by qualified nurses or healthcare assistant roles (Buchan and Poz 2002). Many of these studies are dated and are predominantly from the USA and the UK where different healthcare models exist, making it difficult to compare with Ireland. Although skill mix may be a universal challenge, it is not a challenge that all managers or health professionals can meet in the same way, or with the same resources that currently exist in Ireland. Until nursing activity is clearly described using robust methodological approaches, the nature and benefits of the healthcare assistant role remains unresolved.

Many studies have pointed to the varied benefits of and need for an "assistant/support role" in nursing. Crossan and Ferguson (2005) found that current evidence supported the redistribution of certain responsibilities such as bed making and taking of vital observations in nursing. As far back as 1987, senior nurse managers and policymakers in the United Kingdom were showing interest in the potential for providing nursing services through different combinations of nursing skills (DHSS 1987) such as technicians and enrolled nurses.

The benefits of role substitution by HCAs were found in a review of midwifery skill mix within the Rotunda Hospital, Dublin. Midwives were conducting many non-midwifery tasks that could be carried out by existing members of the hospital team, and through the introduction of a new midwifery assistant grade to undertake duties related to care provision. Nearly 95 per cent of respondents saw

the introduction of a midwifery assistant as an opportunity for staff to enhance their own role and as a means of increasing morale and midwifery patient care (McKenna 2000). However, this study was conducted when there was no formal recognition of the role of HCAs working in maternity hospitals in Ireland and also at a time when there was a phenomenal shortage of midwives working in Ireland.

Other studies examining the value of employing HCAs include Ball and Hurst's (1989) study of the Mersey region project on assessment of nurse staffing and support worker requirements for acute general hospitals, which found that a large amount of time was spent by trained and student nurses on work which could be undertaken by support staff. The study developed flexible framework for staffing, with specific roles and functions identified for qualified and unqualified staff. The study suggested that this approach would improve both job satisfaction for staff and good quality of care for patients. This was found to be particularly relevant in clarifying the conflicting roles between student nurses and HCAs, an issue that is relevant in an Irish context in relation to the placement of undergraduate nursing students within clinical placements.

Within a survey of managers and HCAs in the UK undertaken by Thornley (2000), managers believed that the introduction of the healthcare assistant was a necessary response to resource constraints and to the declining availability of enrolled student and RNs. The study gives evidence of the challenges inherent in and the clarity required in role substitution within the nursing team. This suggests that it is imperative to have clear reporting relationships with HCAs within the team and clarity in the delegation of tasks from qualified nurses working in acute general hospitals to ensure effective governance, accountability and patient safety.

Studies that support the introduction of HCAs do, nonetheless, highlight concerns for patient safety following the introduction of this role. A literature review into the UAP (unlicensed assistive personnel) and patient outcomes by Krainovich-Miller *et al.* (1997) raised concerns about the increased workload for RNs and patient safety in three studies (Minnesota Nurses Association, 1996;

American Nurses Association 1996; Aiken *et al.* 1996). Difficulties in delegating tasks arose from a lack of education and training for HCAs and a lack of clarity in their roles. This has implications for how HCAs can be effectively integrated within the nursing team, how their roles are formally acknowledged and in ensuring that HCAs receive training and preparation for their roles. In addition, Dubois and Singh (2009) in their structured review of published literature between 1995 and 2008 found that substituting less qualified personnel for highly qualified nurses was a contentious practice when used to address staff shortages. This adversely affected patient-related and nurse-related outcomes.

However, no decrease in the quality of care from the introduction of HCAs was found in Marley, Collier and Goldstein's (2004) survey of patient satisfaction and analysis of patient complaints in the United Kingdom. Bosley and Dale's (2008**)** exploration of the perceptions of HCA's role suggested that the key to success of the healthcare assistant role in primary care in the United Kingdom was the training and support of workers. But it is important too that the changing roles of RNs, which have direct implications for the roles of HCAs, are evaluated as RNs take on extra duties and responsibilities. This also has implications for how the competence of HCAs is continuously assessed, monitored and supervised in order to maximise and develop their contribution to patient care and to ensure quality standards in Ireland.

In the last decade there has been an increase in the numbers of HCAs employed to support RNs providing nursing care in Ireland. However, little is known about how HCAs are monitored in relation to their training and education and the changing nature of their role. This requires a system for collecting consistent and accurate clinical information and an examination of the changes in the RN role in relation to the role of HCAs on indices of patient outcomes, such as pressure sores, medication errors and falls. The idea that RNs should be aware of and involved in the training and deployment of HCAs in the healthcare delivery system is pivotal. Spilsbury and Meyer's (2001) systematic review of the British literature since 1992 focussed on the nature and effects of care given by nurses and HCAs in both acute and mental health nursing. The reviewers noted that research tended to focus on clinical outcomes rather than patient-focused

outcomes. Because quality of care is a complex, multi-dimensional concept there is a need for more patient-centered research exploring perceptions of quality and patient outcomes and relationship to nurse staffing and skill mix. Every measurement system for skill mix excludes patients from the calculations and a system that includes the views of patients is needed.

Spilsbury and Meyer's (2001) study also noted that whilst the evidence on skill mix suggested that RNs did make a difference to patient outcomes, there was little guidance on what constituted an "ideal" skill mix ratio of unregistered to RNs. The authors recommended further consideration of the definition of essential nursing care and whether and to what extent it should be delegated. Crossan and Ferguson (2005) found that that while the literature showed that that there was potential to use an increased number of unqualified nursing assistants without affecting the quality of care, the research evidence for this was limited. This strongly suggests the need for qualified nurses to identify the full range of tasks that HCAs can undertake without affecting the quality and safety of care, and is one of many factors that need to be factored into an effective skill mix model.

Overall, the literature demonstrates that HCAs can make a valuable contribution to patient care. However, HCAs are a relatively new grade in general hospitals in Ireland, with the potential for improving patient access and to releasing highly qualified nursing staff to concentrate on treating and managing more complex patient conditions. However, there are concerns and challenges that need to be considered within the nursing profession in Ireland in relation to the value of the healthcare assistant role within nursing skill mix.

3.7 Cost containment and skill mix

The implications on cost containment of nursing skill mix are also addressed in the literature. The skill mix debate is taking place in a climate of restructuring of health systems, and cost containment (Bryant 2005). Appropriate skill mix and care is one of the biggest staffing challenges of health care today particularly when the nursing profession represents the largest financial resource working within most acute hospital settings throughout the world. According to Buchan

(1992) to make informed choices pertaining to ensuring nursing skill mix within organisations, it is necessary to have good research evidence about the likely consequences of skill mix change. However, there remains little evidence of cost effectiveness of skill mix changes being introduced in an effort to increase health service efficiency. Scott (2003) outlined that there are a number of challenges in applying cost containments to the development of nursing skill mix in Ireland as resources will have to cover the direct and indirect aspects of skill mix changes including staff training, redeployment, availability of information technology; data generation and analysis and management resources. Therefore, a pragmatic approach by nurse leaders may be needed, deriving solutions that are achievable rather than optimum, drawing on evidence where it is available but recognising its limitations, and living with uncertainty when nursing skill mix evidence is lacking. This may include reviewing skill mix in the context of making use of professional judgement of nurses' experience when determining nursing skill mix requirements. Skill mix therefore requires careful planning, communication, implementation and evaluation if it is to achieve its objectives.

The overall purpose of skill mix is to achieve the most effective, flexible and cost-effective use of nursing resources, which according to McGillis and Hall (2007**)** needs to be related to improved patient outcomes without the risk of reducing resources. The cost implications of such changes in nursing skill mix are rarely evaluated adequately, therefore, the impact of redistributing nursing skill mix has not been estimated and determining whether changes in nursing skill mix are cost-effective maybe difficult to justify.

In a review of research on changing the skill mix of the healthcare workforce, Sibbald and Shei (2004) concluded that there was a paucity of good evidence of the scope, effectiveness and efficiency of skill mix change. They found that it was difficult to locate any research on the impact of skill mix on the cost-effectiveness of interventions, or wider impacts of skill mix change on health care systems. Therefore, there may be a danger of implementing nursing skill mix changes such as decreasing the number of RNs to HCAs within the current Irish economic environment due to cost containment and restructuring of healthcare services demands without taking consideration of the wider policy

implications such as cost, and the impact on patient safety. Therefore, considerable planning is important so that nurses and health professionals strive to identify the most effective skill mix of staff achievable within available resources to meet the priorities of their organisations and their patient care needs.

The impact of implementing skill mix on personnel costs and quality care has been examined by Lee *et al.*'s (2005) study at a teaching hospital in Taiwan. Questions were included on both patient satisfaction with nursing care and nurse satisfaction with nursing HCAs. The cost of implementing the skill mix practice model with 22 nurses and 7 nursing aides was 2.7 per cent lower than when using only 25 nurses. In addition, there was an improvement in patient satisfaction and in nurse satisfaction with the performance of the aides. This study examined the implementation of the skill mix practice model for nursing in a hospital in Taiwan, the results of which can serve as a reference model for hospital nursing practice reform in Ireland. Nursing costs represent a major component cost of acute hospital resources, therefore implementing robust evidence based skill mix methods to determine nursing requirements may seem attractive for managers but this must be done to ensure quality patient outcomes and satisfaction. Salary costs in Taiwan and Ireland are significantly different and there is no certainty that a similar skill mix practice model in Ireland would produce savings, efficiencies and improvement in patient care. The Taiwan study did not include a skill mix model using other skilled nurses on overtime.

In the USA the nursing and midwifery contribution to improve access to cost-effective quality healthcare and cost containment and nurse-doctor substitution have been the subject of debate. A 2002 review commissioned by the Commonwealth Steering Committee for Nursing and Midwifery found evidence that RN staffing levels within hospitals made a difference to the quality of patient outcomes. In addition, findings from several hospital-based studies also indicate a relationship between increased registered nursing hours and greater patient satisfaction, better pain management and lower rates of morbidity from falls and urinary tract infections (American Hospitals Association 2002). However, the drivers such as cost effectiveness, professional development of the nursing profession, quality patient improvement and pragmatic management may not be shared in a collaborative fashion by both doctors and nurses in Ireland due to the

historical traditional view of the nurse's role as an assistant to the doctor rather than an independent professional.

The New Zealand health service experimented in reducing healthcare costs by reducing nursing numbers and increasing skill levels. The nursing workforce analysis showed decreases in the number of nurse WTEs and their associated hours worked, and an increase in skill mix. The outcomes analysis indicated a progressive and substantial increase in many of the adverse clinical outcomes rates after reengineering implementation, a simultaneous decrease in average length of stay, and decreasing or stable mortality rates (McCloskey 2005). There were statistically significant relationships between decreases in the size of the hospital nursing workforce, the number of nursing hours worked, and the increase in skill mix and several adverse outcome rates. Changes in the nursing workforce variables explained between 50 per cent to 80 per cent of the variance in CNS complications, decubitus ulcers, and sepsis rates among medical discharges, and 50 per cent to 96 per cent of the variance in CNS complications, decubitus ulcers, DVT/PE, sepsis, UTI, physiological and metabolic derangement, pulmonary failure, and wound infections rates among surgical discharges. However, the changes were not statistically analysed in relation to confounding factors in the internal or external New Zealand healthcare environment other than nurse numbers and nursing skill levels.

Despite many studies noting the benefits of the role of the care assistant or similar roles, it is not universally embraced in the literature. A number of studies questioned the intention behind the introduction of the healthcare assistant, suggesting it was merely a cost cutting measure. In the United Kingdom, Daykin and Clarke (2004) in a single case study design using mixed methods (survey, interviews, participant observations, focus groups and documents) to generate an in-depth account of HCAs' work in one organization and found that the employment of nursing assistants was not to support nursing roles but was rather a cost-containment measure, and that seldom had the quality of care and patient satisfaction been fully evaluated. However, further investigation is needed to explore these views as this study was limited to only one care setting. Comparing nursing skill mix models in different healthcare contexts and taking account of

professional and practice culture may result in a clearer understanding of the benefits of the role of HCAs. This would assist in the development of models to inform and support effective nursing skill mix change, training, and regulation of HCAs.

Opposing to the cost savings argument is the interesting question of which staffing contingent actually creates an overall higher cost. While much attention has been focused on the cost-effectiveness of substituting less qualified for more qualified staff, few studies have considered whether a greater proportion of qualified staff i.e. RNs necessarily implied greater costs. However, Siehoff's (1998, p.5) comprehensive literature review challenged this subject matter and focused on that the cost-effectiveness of a rich skill mix of unqualified staff meant lower quality patient care. The author also suggested that many patient-centred factors were positively correlated to a rich skill mix of qualified staff, including "reduced lengths of stay, reduced mortality, reduces costs, reduced complications, increased patient satisfaction, increased recovery rates, increased quality of life and increased patient knowledge/compliance". Bryant (2005) found that, although studies on the cost-effectiveness of changes to skill mix were few and inconclusive, in those that existed some argued that an apparently cheaper skill mix was not cost-effective because of absenteeism, turnover and unproductive time as the workers who substitute are not multi-skilled and, therefore, limited to one-dimensional tasks.

3.8 Quality of care and skill mix

An important recent development has been the attempt by the nursing profession to find an effective method by which the level of quality of care can be measured. Wunderlich *et al.* (1996) conclude that there was little evidence to suggest that changes in staffing patterns adversely affected the quality of patient care at all and suggest that further research on the relationship between nursing personnel employment and client care was necessary to evaluate possible future changes in staffing. Despite the relative absence of published material, there is increasing concern for quality assurance relating to nursing skill mix. While cost containment and efficiency are important considerations in nursing skill mix,

they cannot too be divorced from quality of care issues (Twigg and Dunfield 2009).

The link between nursing skills substitution and quality care was examined in a literature review by McKenna (1995). He found evidence of positive staff and organisational indicators related to higher levels of qualified staff, which impacted on increased productivity, and reduced absenteeism, staff sickness, staff turnover, staff overtime and reduced costs. McKenna (1995) also stated that employing qualified nursing staff as compared to unqualified nursing staff was preferable; however, the reality of staff shortages in Northern Ireland at that time had reduced the available number of qualified staff in the workforce. According to Ross *et al.* (2008), the reasons are far reaching but may centre on the perception that nursing itself has done little to advocate for itself. In 2002, a study commissioned by the Commonwealth Steering Committee for Nursing and Midwifery in the USA reviewed evidence supportive of the nursing and midwifery contribution to improve access to cost-effective quality healthcare and cost containment and to nurse-doctor substitution. They found evidence to suggest that RN staffing levels within hospitals made a difference to quality patient outcomes. Findings from other hospital-based studies also indicate a relationship between increased registered nursing hours and greater patient satisfaction, better pain management and lower rates of morbidity from falls and urinary tract infections (American Hospitals Association 2002).

However, the drivers such as cost effectiveness, professional development of the nursing profession, quality patient improvement and pragmatic management may not be shared by both doctors and nurses in Ireland due to the historical traditional view of the nurse's role as an assistant to the doctor rather than an independent professional (Drennan 2006). Doctor-nurse substitution is not necessarily cost effective nor is it unfailingly a gain in nurse professionalism or in quality of care. To work effectively there has to be clarity of purpose regarding evidence, risks, accountability and quality assurance and as Laurent *et al.* (2004) suggest there may be consequences as nurses tend to provide more health advice and achieve higher levels of patient satisfaction compared with doctors. The US Agency for Healthcare Research and Quality (AHRQ) (2003)

supported these with evidence linking depleted levels of RN staffing with patient adverse events such as decubitus ulcers (pressure sores) and patient falls in unit, hospital and nursing home settings, although the evidence was not consistent in linking higher RN workloads to higher rates of patient mortality.

The US Agency for Healthcare Research and Quality (AHRQ 2003) supported these findings in their review of whether the working environment of healthcare personnel contributed to the incidence of adverse patient events arising from injuries arising from healthcare. The study found evidence to link depleted levels of RN staffing with patient adverse events such as decubitus ulcers (pressure sores) and patient falls. It reported consistency in studies conducted at both unit and hospital level, and in nursing homes, that found lower RN–patient staffing ratios associated with higher rates of non-fatal adverse events. However, the data regarding mortality and RN–patient ratios were less convincing and no reviewed study attempted to differentiate between avoidable and non-avoidable deaths. The study concluded that there was "sufficient evidence to conclude that higher nursing workload is associated with higher rates of non-fatal adverse outcomes in both inpatient and nursing home settings" (AHRQ 2003, p. 124).

Hegney *et al.* (2006) found (in two studies in 2001 and 2004) that staffing numbers and skill mix, as factors that have an impact on patient safety, length of stay and patient outcomes, were shown to have a major effect on staff morale of nurses in Queensland, Australia. They add that that these are critical factors that employers need to address in retaining nurses within the nursing workforce, in order to avoid high turnover and the risk of litigation resulting from inadequate RN to patient ratios. Other factors of relevance are years of experiences (Dunton *et al.* 2007) and the impact of workloads on rates of hospital infections (Griffiths 2008). According to Buchan and Aiken (2008), policy makers in Japan, Europe and other developed countries face challenges in relation to both the supply and demand for nurses. They conclude that this requires coordinated policies with long term and sustainable solutions.

The central role nurses play in patient safety (Savitz *et al.* 2005) suggests a need for consensus on a set of evidence-based indicators and measures that will enable

nurse managers and policy makers to examine the impact of staffing changes on the quality of care received. Such indicators could be used to evaluate the outcomes of nursing practice when changes are made in care processes or the delivery of nursing care. The relationship between quality of care and the cost of the nursing workforce and the relationship between the nursing workforce and patient outcomes in the acute sector are two of the most important relationships to policymakers because the cost of nursing is the largest proportion of the budget and patient outcomes are what healthcare is all about. It is therefore not surprising, in Irish healthcare, that all the attention is on nursing numbers and relatively little on nursing skill mix. This study seeks to redress this balance.

The majority of studies examining quality nursing outcomes are related to the observable results of nursing interventions only, with a number of studies reducing nursing to a series of activities that can be defined, observed and counted. Therefore, a certain standard of nursing care can be reached if a defined frequency of specified nursing activity is given to patients in different dependency groups. Whilst this type of research addresses notions of quantity, it says little about the quality of nursing care given. As a result evidence does not yet indicate the minimum or ideal skill mix, despite consistent support for nursing skill mix models to be based on a standardised set of criteria. Spilsbury and Meyer (2004) found significant evidence related to the relationship between healthcare cost and healthcare quality, the impact of staffing and staff ratios on mortality, the relationship between characteristics of organisations and patient outcomes, and the possible impact of nurse staffing turnover and nurse education. The provision of safe, quality patient care has become major issues for acute hospital managers and raises the importance of how nursing interventions and skill mix can impact on patient outcomes.

Changes in nursing skill mix have implications for patient care and need to be evaluated for their effect on patient outcomes (Bryant 2005). Investment in employing qualified nursing staff to ensure quality patient outcomes is a major challenge for nurse managers if financial resources are unavailable. Dubois and Singh (2009) state that while many studies have reported positive impacts from an optimal enriching staff mix, they did not offer clear guidance about how to

achieve this in relation to personnel: patient ratios or the proportion of different categories of staff members on teams. Factors that need to be taken into account in determining nursing skill mix include patient involvement, patient outcomes and improved effectiveness of healthcare.

In Northern Ireland, McKenna *et al*'s (2005) literature review found that quality of care was a complex, multidimensional concept which was a challenge to evaluate. In particular, traditional nursing assessment tools have fallen out of use, partly because they have failed to provide opportunities to engage with and access the views of patients or nurses. The study concluded that there is a need for more patient-centred research exploring perceptions of quality and differences in nurse staffing, skill mix and autonomy. Some of the literature even goes so far as to question the validity of all of the previously conducted research on skill mix and quality care. According to Buchan (2004), there may be publication bias, because unsuccessful attempts at changing skill mix may be less likely to be recorded and published and searches rely on the use of key words; skill mix is covered by a broad range of possible key words, and some relevant publications may have been missed. Jenkins-Clarke and Carr-Hill (2003), in their scoping study commissioned by the Department of Health in the UK, found that research literature on skill mix and patient outcome was of relatively poor quality, had contradictory results, and did not contain convincing evidence of a direct relationship between the proportion of RNs to patient mortality.

In the UK, Daly and Carnwell (2003) found a dearth of research, particularly for role changes involving workers other than doctors or nurses. Cost-effectiveness was generally not evaluated nor was the wider impact of change on healthcare systems. The perceived impact on healthcare of the value of the nursing resource has not been truly estimated. Therefore determining whether changes are cost-effective is difficult to access. However, studies on economic evaluation (Buchan, and Dal Poz 2002) do point to skill mix changes in reducing costs, and improving or maintaining patient outcomes.

3.9 Methods to determine skill mix

An important potential contribution to the efficient use of the nursing workforce in Ireland is the utilisation of nursing skill mix. However, how nursing skill mix is determined in acute hospitals remains unclear and a contentious subject (O' Halloran 2010). A number of approaches to determine nursing skill mix are outlined in the literature; but there is no common standardised approach or methodology. Some of the research concludes that this might not be a bad thing, and that while there needs to be some commonality around the approaches in determining skill mix, there is also a need to allow for flexibility. Most of the literature does support the idea though that getting the skills mix right is important, and is essential not only to ensure the most efficient and cost-effective service but also to maintain the motivation, interest and enthusiasm of existing staff (Anderson and Coker 1989). Determining appropriate methods to establish nursing skill mix in acute hospitals is critical. However, understanding the impact of nursing workload and what should be considered in the allocation of nursing resources is generally unclear and greatly dependent and influenced upon potentially inadequate systems of determining nursing skill mix.

The issue of skill mix is further complicated by the fact that the literature shows no real consensus on what methods are best used to obtain an appropriate nursing skill mix. In fact, some of the literature casts doubts over the value of some of the existing methods used. In addition, Crossan and Ferguson (2005) warn of the need to closely examine the methodological rigour of skill mix reviews because of their small size in general and the fact that there may be underlining motivations by policy makers driving and funding these reviews. This viewpoint could apply to the context of Ireland where policy makers are driving and supporting funding of skill mix reviews from a financial imperative with consequence to reducing the amount of qualified nurses working in acute general hospitals (Irish Nurses and Midwives Organisation 2010). Evaluations are seldom conducted on determining skill mix in complex nursing specialties and the more complex the workplace the less likely the evaluation is to capture all the skills needed. Decision makers are likely to choose less complex less costly evaluation sites. The weakness of skill mix research design and rigour is due mainly to the need for more robust guidelines if they are not already developed on how skill mix can be determined, as well as better methods to share good

practice universally, to advance the evidence base and support informed decision-making in this area (Buchan 2005) therefore the results from even the most rigorous of studies cannot necessarily be applied to a different setting such as Ireland.

Ensuring the planning of efficient and effective delivery of nursing care within the health care services required to meet the health needs of patients is a significant challenge particularly due to the competing demands within health care in Ireland. Effectively organising the nurse workforce may yield many advantages. For example, according to Stanley *et al.* (2009) advanced practice RNs offer in the United Sates a critical resource to fill the gap between primary care and chronic care management as they provide cost-effective, accessible, patient-centred care and have the competency to provide a range of services, including care coordination, chronic care management, and wellness and preventive care. However, it is critical that policy makers and nurse leaders within acute hospitals reach consensus on the concerns and needs of individual hospitals so as to ensure the most effective utilisation of nursing skill mix for the nursing profession.

Dubios and Singh (2009) highlighted that healthcare organisations had been exploring innovative ways to deploy their workforces, focusing on staff mix to achieve the value and contribution of different staff mixes to patient, personnel, and organisational outcomes. These go beyond narrowly defined human resources management practices to include organisational and institutional conditions such as the number, mix and staff status, the extent of social contact in the workplace, working conditions and opportunities for self-development and self-realization. Findings from studies on magnet hospitals indicate that key patient outcomes, as well as health care workers' improved work-related well-being, depend on the organisational characteristics that create conditions for professionally based practice environments, which have relevant skill mix (Aiken *et al.* 2006).

Therefore the question as to what constitutes an effective method to determine nursing skill mix remains controversial. There has been a recent increase in

international interest in the use of mandatory and non-mandatory methodologies to determine nursing skill mix. Avery (1999) suggested that there were two alternative methodologies available in resolving the skill mix debate: to specify a minimum acceptable staffing level and skill mix, or to develop a strategic action plan that promoted the linkages of quality of care and cost factors with staffing levels and grade mix. Quality of patient care and cost are therefore integral elements when determining nursing skill mix. He argued that the first option was undesirable, as specific staffing ratios identified as minimum requirements quickly become interpreted as norms and then ceilings. This view was supported by Welton *et al.* (2006) in Belgium where mandatory, nurse-to-patient staffing ratios purport to address the perceived imbalance between patient needs and nursing resources yet they do not address the very different levels of treatment complexity and nursing intensity among patients in a given unit. Also, regulated ratios once established become difficult to change as they outlive their usefulness and appropriate staffing levels and mix are based on a complex and dynamic set of variables and cannot be expressed as a single national ratio. He also challenges that institutional or negotiated ratios will continually be subject to challenge based on cost-effectiveness and quality client outcomes.

In undertaking a skill mix review, Avery, Anderson and Coker (1989) state that it is imperative to identify and agree the service objectives of the organisation in totality as well as to identify the skills required by the appropriate occupational group and grade with the appropriate training. The authors argue that the information gathered from these steps made it possible to identify the range and skills required for the provision of services. However, the application of this practice in reality remains questionable. Buchan (1999a) proposed that for the ideal scenario to work out the skills required and the staff needed, nurses had to work in reverse beginning with a decision about what activities made up the care for the particular group of patients. Achieving optimal skill mix may be a challenge for healthcare organisations internationally, particularly when there is not one method that can be applied to organisations uniformly. These approaches to nursing skill mix (such as professional judgement, activity analysis, bottom up/top down methods) are not mutually exclusive; so organisations will often rely on a combination of the different approaches when determining nursing skill

mix. The reason for the existence of different skill mix determination methodologies is thus partly due to the various understandings and definitions of nursing skill mix and maybe to the different types of challenges that prompt organisations to review nursing skill mix.

Most international studies do not explain why a particular approach to skill mix was chosen. Also, they give insufficient information about the organisational context in which skill mix decisions were made. Most studies according to Buchan (2003) do not provide appropriate evaluations of quality outcome and cost to enable any real evaluation of skill mix. Buchan (1999a) argued that in practice most of the published studies on skill mix related to an organisationally-based description of an approach to determining personnel mix rather than a research-based evaluation of an approach or of a particular mix. This was highlighted by the stated need in many of these studies for broader contextual matters of how to successfully implement change management strategy as a priority for organisations. Other authors highlight specific limitations which relate to the importance of clarifying the cost-effectiveness of different nurse staffing patterns (Spetz 2005), and challenges with the level of analysis of nurse staffing variables (McGillis Hall 2005). In Ireland few studies have been undertaken to determine nursing skill mix requirements for organisations. It is therefore impossible to compare with similar organisations internationally. Reliable benchmarking would be almost impossible given the range of confounding skill mix factors that would be used to interpret nursing skill mix and undermine empirical comparisons. Others also argue that none of the current methods of obtaining skill mix are effective. Spilsbury and Meyer (2001) concluded that there was little value regarding the methods for determining skill and staff mix at all. They suggested that further research was needed for skilled research teams to develop, concurrently with staffing standards for the same type of institution or institutions using several different analytical methods to determine nursing skill mix. The authors outline that comparisons of the results obtained by different methods applied to similar hospitals would help inform the kinds of method to be used. However, such research would have to ensure reasonable objectivity for the persons applying each of the several methods used to determine nursing skills mix.

Evaluation of how nursing skill mix is determined across countries has not been adequately carried out, to enable professionals make effective decisions with regard to determining nursing skill mix. Liu *et al.* (2008) suggest that further research could help to develop comparative staffing standards for different countries, at several different levels of economic and health system development. These could be available for major types of health facilities, e.g. health centres, small district hospitals, and referral hospitals. Such standards may assist poorer countries in making choices in determining nursing skill mix. They would also be a useful set of tools for human resources managers and health policy planners. However, it is imperative that such studies would be undertaken using similar approaches within similar organisation sizes, to assist comparative standards for determining nursing skill mix internationally. But, copying a skill mix approach just because it works well in a similar location is no guarantee that it will work well in its transplanted location. In summary, when making skill mix decisions in nursing, two main approaches of determining nursing skill mix appear in the literature: benchmarking and nursing workload methods.

3.9.1 Benchmarking

In the UK benchmarking has been developed to determine nursing skill mix as an approach that enables nurse managers (at different organisational levels) to gain information about their nursing skill mix by comparing their data with those of other similar hospitals (if these hospitals are well defined). Furthermore, benchmarking can be used by senior policy makers to assist in evaluating nursing skill mix and outcomes for different acute hospitals nationally. The Audit Commission in England (2001) has argued that benchmarking data can be useful in setting staffing numbers in acute general hospitals, and recommend that a combination of both benchmarking and consultation or workload measurement are used. A recent study conducted by Ball and Pike (2009) calculated that the average number of patients per RN on National Health Service (NHS) wards in the United Kingdom is 10.6 patients in the day and 7.9 at night. This is the same as recorded in 2005, but more than in 2007. However, evidence from consultations carried out with nurses shows both satisfaction and dissatisfaction with time is divided between clinical and other roles. Workload views of NHS

hospital nurses are strongly correlated with the patient to RN ratio where they work. More than half of NHS nurses consider that the nursing establishment where they work is not sufficient to meet patient needs. Forty two per cent say short staffing compromises patient care at least once or twice per week and one in four say it is on most or every shift. This study suggest that the consequences of government policy on benchmarking nurse staffing levels in the United Kingdom have been inconsistent often combining empowerment, disempowerment and work intensification for nursing staff.

The Audit Commission UK (2001) also outlined a summary of the principles for effective benchmarking to include transparency; (ensuring that all staff are able to see how staffing levels and skill mix are determined); integration (where all staff are involved in the process of how staff are determined); observing staffing comparisons to similar organisations; and establishing clear measurable outcomes for an organisation. Nurses need data and information to make decisions. Managing data is complex in a general hospital care environment in which there are few standard ways to collect and compare vital data elements in order to manage care delivery outcomes. However, developing benchmarking with other similar organisations using contextual nursing covariates of patient outcomes that can be described, analysed, and compared, may be valuable.

Benchmarking of nurses working in similar organisations is a method that can facilitate nurses to measure and identify consistencies or inconsistencies in patient care resources. It is also a method that can facilitate in the determination of nursing skill mix requirements. Through the use of a benchmarking approach, performance by nurses can be identified and processes can be put into place to improve patient outcomes and ensure adequate nursing skill mix. Measuring nursing skill mix reliably is the critical initial step to understanding the relationship between nursing skill mix, workload and patient safety. However, benchmarking success lies in the ability of nurses to apply these factors to the clinical environment.

Benchmarking is especially useful to managers with limited resources and who cannot afford to carry out a full dependency and activity levels study (HSE

2008). However, it may be difficult to compare nursing activity in organisations that are dissimilar. Furthermore views may be too pessimistic and therefore not beneficial. As more skill mix evaluations are carried out results may suggest a simpler measurement methodology. Nurses have to keep records and spend time providing data if the evaluation is to be accurate. It is in the busiest locations where skill mix is most critical that the recording is most likely to be less complete (Royal College Nursing 2008). This implies that if benchmarking is to be a practical tool then it will be essential that it is simple and useable, particularly in the busiest locations.

3.9.2 Nursing workload measurement methods

Nursing is perceived by the nursing profession to be a valuable resource that must be rooted in a commitment to leadership and high quality patient care (O' Halloran 2009, p.2). As Hughes (1999) suggests workload assessment methods need to be fully examined in order to quantify the nursing input to patient care, and the validity of nursing workload methods on nursing practice and knowledge. She concludes that most methods do not have a clear theoretical base, and are often based on untested models to determine nursing skill mix. Studies in nursing informatics in Canada (McGillis and Hall 1998) are addressing this issue by exploring the theoretical nature of nursing through qualitative studies to draw out coding and classification models from actual nursing practice. Although some headway has been made, it is recognised that there is still much work to be done in this area (Saba 2007).

But methods to determine and assess nurse workload and skill mix are closely connected to a drive for greater efficiency and cost effectiveness (Giggs, Caughan and Griffiths 1990). Ravn (2003) argues that the proportionately high cost of the nursing budget impinges heavily on the cost of treatments. Whelan (1998) found that ward sisters (now CNM2) needed supporting information to determine skill mix and efficient utilisation of staff. The implication is that nursing costs could be reduced or justified if nurses were deployed more efficiently. Tripp-Reimer and Doebbeling (2004) claimed that without reliable data it was impossible to assess the nature, effect and quality of nursing, while

Brennan and Fitzpatrick (1992) argued that this requires consultation and involvement with nursing staff and reliable data.

The implications of not understanding fully the impact of nursing workload on patient and safety outcomes needs exploration. There is limited evidence in the literature to show consistent nursing workload methods, making it hard to assess how adequate nursing skill mix can be a prerequisite for meeting patient's needs. According to O'Halloran (2008), as nurses in Ireland take on increasingly specialised roles, nurse managers face a daunting task in measuring nursing workload. In her review for the HSE, O'Halloran (2008) examined various approaches to determining nurse-staffing requirements and concluded that "recent workload methods may be more sophisticated than earlier methods but some means of determining nurse staffing, however basic, has always been necessary" (O'Halloran 2008, p.2). Therefore it is imperative from a nursing policy perspective that workload methods are implemented to assist the nursing profession in making evidence base judgements in relation to their skill mix requirements.

According to the International Council for Nursing (2004b), the complexity of nursing means that not all aspects of workload can be quantified. However, workload measurement can contribute to the process of professional reflection and recognition of nursing work. In the Irish context, both the activity-based and dependency-based methods of assessing workload are predominately employed (Meyer, 2005; O'Brien and Benger, 2008). These methods assist in the nursing and midwifery decision-making process enabling estimates of the appropriate staffing level required. The Dublin Academic Teaching Hospitals (DATHs) Skill Mix Report (2001) found a lack of consistency and guidance, and a centralised approach to determining nursing workforce requirements compromised nursing skill mix within the DATHs Hospitals.

Morris *et al.* (2007) found that nursing workload concepts such as acuity and dependency are defined and measured in different and often contradictory ways. They suggest that articulating and explaining nursing workload may have a positive impact on nursing workload management and on patient care. However,

the understanding of what has an impact on the nurse's workload and what should be considered in the allocation of nursing resources remains unclear. Additionally, while patient dependency levels have been used to gauge the level of nursing workload, the authors suggest that this is an inadequate method of quantifying nursing workload as this ignores non-patient-related nursing activities, complexity of care and skill required to deliver quality patient care. Overall the lack of firm conclusions about the most appropriate methods to use when determining nursing skill mix has major implications for patient care. This is reinforced by the conclusions of Morris *et al.*'s (2007) study that nursing workload concepts such as acuity and dependency are defined and measured in different and often contradictory ways. It is therefore vital to understand these differences to measuring nursing workload.

For example, in the context of nurse staffing levels in acute mental health services, the Royal College of Psychiatrists' (1998) study identified three methods commonly employed to determine nurse staffing levels based on professional judgement, patient dependency and activity analysis. The study suggested that the methods most likely to succeed were those that did not rely on mechanistic data collection or on the unsupported opinion of individual managers. Even though their study is over ten years old these methodologies are still widely used in acute general hospitals.

In another example Hughes (1999) found that of the array of methods to determine skill mix, the first task was to construct a taxonomy of the many and tried methods used to determine nurse workload methods, including three broad categories of approaches to nurse demand methods: consensus approaches which consist of intuitive and consultative methods; top-down management approaches which consist of methods based on staffing and staffing formulae and the bottom-up management approaches which consist of nursing intervention and patient dependency. However, there is no consensus on which method is optimal to support the determination of nursing skill mix in acute hospitals. The confusion and uncertainty surrounding these methods (Buchan 2005) raise challenges and questions about the value of these approaches and the impact on

patient outcomes, such systems such as these workload demand methods can be used to facilitate, but not to control, decisions about nursing skill mix.

In examining the various methods in determining the complexities of nursing skill Arthur and James (1994) make two important distinctions in the taxonomy between management and consensus, and between top-down and bottom-up management approaches. Consensus approaches were seen to be overtly subjective, while management approaches aimed to be objective and prescriptive. Top-down and bottom-up approaches differed in the level at which information was gained for calculation of staffing requirements. Top-down approaches determined staffing levels either by nationally recognised recommendations or statistical formulae, while bottom-up approaches calculated staffing levels from local, ward-level workload information, based on the degree of patient dependency and/or the level and type of nursing intervention. However, factors such as budgets and nursing labour markets may be more important in nurse skill mix planning than the methods to determine nursing skill mix employed by nurse managers. This is explained by the fact that measurement of workload can only be met within staffing levels rather than predicting skill mix requirement (McGillis-Hall 2005). Therefore, the prevailing skill mix structure may tend to dominate any attempt to measure workload rather than utilising a top-down or bottom-up management approach.

The capacity to distinguish factors that affect methods to determine nursing skill mix that assists nursing managers to make well-judged decisions, regarding the need for nursing resources is crucial. Hurst (2003) summarised the five commonly used methods to determine nursing workload - which he termed professional judgment, nurses per occupied bed method, acuity-quality method, timed-task/activity approaches and regression-based systems. Professional judgment as a method was viewed as a quick, simple and inexpensive method that can be easily applied but identifying the relationship between staffing levels and nursing quality is hard to explain due to the lack of scientific data. The nurse per occupied bed method provides an opportunity to benchmark against other organisations staffing levels but this is based on the assumption that the staffing is rationally determined. Acuity methods can use local data but is an expensive

method to implement. Regression analysis method which predicts the required number of nurses for a given level of activity (Hurst 2000) is useful for situations were predictions are possible but knowledge of statistics is required to fully implement successfully. In evaluating the literature, Hurst (2003) concluded triangulating two or more methods could give greater confidence that staffing recommendations were appropriate.

The methods of determining nursing skill mix described in the previous section are not mutually exclusive. For example, placing patients into categories of dependency has often been used alongside nursing intervention methods employing time and motion studies. Top-down and bottom-up methods can be combined to take into account the different levels of the organisation. The Aberdeen Formula which is described as a top-down formula approach, yet it induces patient dependency categories and activity sampling (Dunfield 2006). He states the reliability, validity and utility of each approach can be challenged. This has implications for understand the impact of excessive workload on patient care and nurse safety outcomes. This goes some way to explaining why such methods have been poorly implemented in Ireland.

Research has been carried out to compare the different methods to determine nursing skill mix. A USA study by Schroeder *et al.* (1984) found little difference between the number of nurses determined by category-oriented (i.e. bottom-up dependency) and task-oriented (i.e. bottom-up intervention) nurse demand methods. They concluded, however, that category-based (bottom-up dependency) methods were easier, cheaper and more consistent. Even though this study was conducted over 25 years ago their findings are still relevant to nursing skill mix methodologies, particularly in an environment of cost containment. In addition, the literature from the 1980s suggests that the requirement of many bottom-up approaches to appraise nursing demands on a shift-by-shift, day-to-day basis had the potential to result in more effective care and reflective practice (Miller 1989).

Critiques of workload assessment methods (Young 2008; Miller 1985) suggest that this is complicated by the standardized nature of nursing across care settings.

Many of the methods designed to measure nursing workload are reliant on determining tasks that fail to capture the less tangible but core aspects of nursing duties. Miller (1985) suggests that the concept of "patient dependency" might actually be iatrogenic and result in the activities themselves creating greater levels of patient dependency.

Questions have also been raised about the adequacy of definitions and measurements of nursing roles. Hunt (1990) argues that nursing encompasses three elements of multi-functioning: masking, multi-tasking and substitution. However, few methods of studying workload were able to objectively capture this type of multi-functioning nursing activity. Activity analysis is significantly different to workload analysis and skill mix analysis although it frequently forms part of both. Because activity analysis is almost always self-reported this may impinge on the accuracy and objectivity of the results. Activity analysis, like all research, is a representation of reality and can be done well or poorly, and can be affected by the extent of the response rates and whether there is a repeated analysis of trends. Activity analysis presents many challenges related to cost, the focus on tasks and the need for substantial data collection. However, it represents one of the most comprehensive methods to of accurately measure workplace activity.

Further questions have been raised about the reliability and validity of findings from existing nursing workload studies. Carr-Hill and Jenkins-Clarke (1995) observed actual times worked by nurses and the estimated required times from four workload systems. They found significant differences between the estimated hours required and the actual hours worked for two of the wards, which indicated that the information supplied was unreliable. Therefore, the viability of such methods needs further exploration. In addition, a survey of patients within different categories of one dependency method was found by Hughes (1999) to represent varied nursing care times between patients in the same category. This indicated that the method produced workload information that bore little resemblance to the timing of actual nursing care. This does raise questions about the reliability or validity of assessment methods. Thus, nurse qualifications, nurse staffing levels, nursing quality, service demand level, role confusion, and a

range of other factors makes determining skill mix an extremely challenging subject to implement. Although Hughes (1999) considers skill mix measurement systems to be unreliable, this does not mean that skill mix is not important.

Shorter patient stays and more homogenous dependency levels, according to Endacott and Chellel (1996), suggests that dependency workload methods have less use if most patients are assigned to only one or two categories, thereby providing little in the way of extra useful information. Nevertheless, attempts to develop a universally applicable formula on the setting of nurse staffing levels, on the basis of variations in patient dependency, have been based on unrealistic assumptions about the influence of judgement in the decision-making process. This is of concern because any system of skill mix that is recommended for adoption in Irish acute healthcare must be (a) sufficiently flexible to work in different nursing environments, and (b) sufficiently reliable and replicable to be used as a basis for recommending skill mix.

Role based approaches have been used in legislation in California in the United States, and Victoria in Australia to define standardised nurse-patient ratios using role based approaches. California introduced role-based approaches to inform decisions about nurse staffing in 1999. Acute care hospitals were required to provide minimum licensed nurse-patient ratios of 1:4 or 1:5 on each patient care unit. Initial research reports found that RN hours per patient day increased, while the number of patients per RN declined. (Donaldson *et al.* 2005). This study and other research have found that adverse events have not been reduced as a result of the mandated staffing ratios (Bolton *et al.* 2007).

In 2001, Victoria implemented a nurse-patient ratio of 1:4, with a view to expanding the nursing workforce through increased recruitment and retention. Ratios are legally mandated across the State in the public sector under a collective agreement. A modified 5:20 model of the nurse-patient ratio has since been introduced to reflect unit level staffing requirements and allow managers to determine patient assignments based on skill mix and patient acuity, and also allow for flexibility in responding to changes resulting from an emergency or change in patient status (Gerdtz and Nelson 2007).

Nurse-patient ratios were introduced in Israel in 1996. Hospitals have implemented a staffing method to determine the ratio of nurses to hospital bed and in relation to cover required future absences and holidays (Rassin and Silner 2007). Increased demand for RNs due to patient complexity has led to recommendations that hospital skill mix be revised with an increase from 73% to 80% of RNs (Rassin and Silner 2007).

A recent study in Canada that examined decision-making processes for nurse staffing ratios and the implications of standardisation of nurse-patient ratios and using task-based workload measurement or patient dependency approaches for determining nurse staffing (McGillis Hall *et al.* 2006). A key recommendation from the study was that policy makers should work closely with managers in developing practice-based solutions in translating evidence into practice (McGillis Hall *et al.* 2006).

The literature from North America in the last decade has established linkages between specific nurse staffing models and patient outcomes. However, there are gaps in relation to determining the impact of the work environment to staffing models and patient outcomes (McGillis Hall 2005). The implication is that there is a need for greater work to clarify regarding the cost-effectiveness of different nurse staffing patterns (Spetz 2005), the level of analysis of nurse staffing variables (McGillis Hall 2005), and measurement errors that can occur when implementing staffing allocation methods (Harless and Mark 2006). Finally, the literature to date has failed to provide concrete estimates of what staffing levels are required for safe patient care.

Policy makers and system managers have developed a range of initiatives to optimise the number and mix of personnel needed to provide high-quality patient care. A literature review by Dubois and Singh (2010) found that recruitment practices and initiatives to promote patient care focus more on staff types than on staff members' skills and the effective use of those skills. They concluded that a more systematic approach in human resources management practices that takes into account broader organisational and institutional conditions. In relation to how staff mix is integrated into human resources management, Dubois and Singh

(2009) warned that perspectives that focused on staff mix that counted the number of personnel needed or a focus on generating formulae and algorithms provided only partial solutions. Wider perspectives, which focused on how human resources could be differently managed either through skill development or skill flexibility went some way towards conceptualising personnel use in the dynamic and constantly evolving realm of health care. Therefore, no one system can ensure a perfect match between the demand for nursing and the supply of nursing staff within resources available because they are incapable of consistently generating the best mix of staffing for different nursing workloads, the best mix for different demand levels, the best mix for different levels of workplace maturity, and the best mix for different specialties.

Current patient dependency systems do not adequately take into account varying nursing care requirements among patients. If a tool/method could be found that effectively evaluated staff' workload, ongoing assessment of the workforce would be enhanced and resources better used and nursing skill mix could be applied more readily. Equally the search for tools for patient outcomes would be beneficial and strengthen the professional capacity of the nurse to determine skill mix.

3.10 Conclusion

There is, as yet, no agreed definition of nursing skill mix. The most suitable nursing skill mix system for general hospitals is not agreed. The literature suggests that an ideal skill mix method is not fully identified and highlights the inherent difficulties with identifying such a system (WHO 2008). Mechanisms to build in quality, training, qualifications and role clarity into the nursing skill mix planning system have been the subject of a great deal of research, theory, modelling and experiment but are still under-developed, producing mixed results and little consensus on how an effective nursing skill mix should be constructed.

A nursing skill mix method that is sufficiently flexible to be adapted successfully in acute general hospitals settings does not exist. Skill mix evaluation is equally indeterminate as evaluation is usually difficult in the light of the multiple factors that impact on patient care. These factors include quality, training, qualifications,

role confusion, patient acuity, workload demand levels, work complexity levels, resources, population age profile, patient expectations, staff performance and even less measurable concepts such as motivation, morale, cultures, and communications of staff. In developing the profession of nursing the Commission on Nursing in Ireland (1998) introduced new skills to be accomplished by nurses. These included more involvement in management, advanced practice, drug prescribing knowledge and other skills. There is a gap in knowledge of how nursing skill mix is defined, understood and determined in acute general hospitals in Ireland and internationally.

Confusion and ambiguity exists in relation to the role and function of nurses working in the acute hospital sector. The debate relating to the definition of skill mix in nursing and the implementation of such models into the healthcare environment is challenging. It would appear that realistic expectations of what any nursing workload measurement system can achieve must be held. No one system can ensure a perfect match between the demand for nursing and the supply of nursing staff within resources available. Nurse demand methods should be treated as a means to facilitate the appropriate and successful deployment/application of staff skills and competencies. Nursing skill mix may be viewed as contentious as a perfect tool for measuring nursing skill mix and may not exist internationally. This is particularly challenging when operating within today's context of rising demand for health services, cost containment, and shortages of health care workers. Therefore, determining the most effective skill mix of staff and the skills needed to ensure safe, quality, and cost-effective patient care is imperative.

The importance of establishing an appropriate number and skill mix of nursing staff at the level of ward/unit, hospital and the health service as a whole is one of the most basic and most critical activities in an effective acute healthcare system. Plus, the manner in which skill mix impacts on quality of care and financial resources may have profound consequences for those giving and receiving nursing care. In light of the current health reforms in the Irish healthcare system such reconfiguration of acute hospital services nationally; there is a need to determine an appropriate number of nursing staff using effective workload

methodologies. Nursing workload methods selected must be adaptable to meet the needs of hospitals nationwide.

Determining nursing staffing levels remains a contentious issue. Other countries have approached this issue in different ways including the introduction of legislation; the use of contemporary planning systems based on professional judgement, patient dependency and acuity; and by using dedicated computer-based applications to tackle the issue. All of these methods have their own advantages and disadvantages with no one system that would fulfil all of the requirements in Irish nursing. Off-the-shelf systems can become just a numbers game rather a mechanism to support clinical decision making (International Council for Nurses 2004b).

With the increasing emphasis by the nursing profession on appropriate and safe levels of nursing staff, identifying resource requirements based only on numbers of patients, without taking into account differences in acuity among patients, raises the potential for inappropriate staffing. Systems that describe and quantify nursing workload are critical for determining and justifying resource requirements. Such systems can have value for the organisation as a whole, but more importantly for patients and for nursing practice. The ultimate goal of providing safe, high-quality patient care requires staffing and resource allocation decisions based on systems that address patient need for nursing care that cannot be based on historical staffing levels alone. Without appropriate nursing skill mix, public money may be misspent allocating staff where they are less needed and increase risk by not allocating them where they are most needed. Historical staffing levels are just that – historical. Their continuance can waste public money because healthcare demand changes and overstaffing can be hidden in one setting while staff shortage in another setting can increase risk.

There is no single solution to the question of what constitutes the appropriate nursing skill mix, while different systems applied in the same care environment will produce different answers. Staff with appropriate skill mixes is required to deliver effective and appropriate patient care. Increased public sector integration (OECD 2008) aims for better management of performance, more effective

integration of systems and groups by reorganizing hospitals through the National Clinical Care Programmes and better outcomes for the public. As the Health Information: A National Strategy, states "high-quality information lies at the heart of all good decisions concerning health" (Department of Health and Children 2004, p.15). Nurses are being challenged by health policy makers and need access to timely information to assist them in making decisions in relation to how best to determine nursing skill mix in acute general hospitals. Safe and effective care is related to staff being available to deliver high-quality care. However, the literature offers diverse support on how nursing skill mix should be determined for acute general hospitals in the future.

The international literature provides an important context for this study and shows overwhelmingly that there is no ideal model or method of nursing skill mix. As an issue of current importance in an Irish context the literature points to the challenges in applying a systematic approach to nursing skill mix and to the fact that debates on different models and approaches remain inconclusive and rhetorical. However, the literature does provide some very useful theoretical and conceptual underpinnings for the study leading to a deepening understanding of the ambiguities in relation to role theory and skill mix definitions and methods for determining skill mix.

While no one method of nursing skill mix can be applied in a systematic way in Ireland, the literature does show the complexity of nursing skill mix as a concept and the need to recognise the organisational, cultural, social and other contexts that are unique to the Irish healthcare context. It has been shown that skill mix can optimise the effectiveness of the workforce and in an Irish context that this needs to take account of multiple layers of influence. These include ascribed roles and their influence as found in the discussion on organisational role theory, different approaches to and definitions of nursing skill mix in determining nurse roles and functions in relation to both skill mix and grade mix, and the role of nursing skill mix in determining the allocation of resources and workforce planning. These are critical issues in an Irish context in the current climate of expenditure cuts in health care and in the light of the reform and reorganisation of healthcare. The literature review has also revealed the need to avoid ambiguity

in nursing roles and role confusion, and to ensure that there is effective evaluation of the impact of changes in skill mix arising from the introduction of HCAs and Advance Nurse Practitioner roles. This has longer term and more fundamental consequences for the definition of nursing roles in Ireland, while also allowing for flexibility to provide a quality service. The literature review also shows the need to proceed with caution in determining nursing skill mix in Ireland and for the need for systematic evaluation, further research and an approach that involves all stakeholders in the process of determining nursing skill mix. This is particularly important in the ongoing development of nursing roles and functions and in ensuring that the nursing profession itself is directly involved in developing its own expertise, innovation, professional development and standards in relation to improving the quality of care. The literature does suggest also that innovation in nursing roles and the future development of nursing skill mix is vital to improving the quality of patient care.

Finally, it is evident from the literature that nursing skill mix needs to take place in the context of healthcare reform by ensuring that there is a match between the skills required and the overall service objectives. Again this has implications for current reforms in the healthcare system in Ireland and to ensuring that nursing skill mix is not treated in isolation from broader changes in policy, service delivery and workforce planning.

The key gaps in our knowledge of nursing skill mix are (1) we do not know enough about perceptions of nursing roles in contemporary practice in acute general hospitals (2) too little is known about how managers and policy makers perceive and determine nursing skill mix in acute band 1 hospitals in Ireland. Chapter 4 (next) sets out the methodology used in this study to bridge these gaps in our knowledge.

Chapter 4
Methodology

> Humans are both rational calculating beings…and they also operate on a deeper level of feelings, drivers and irrationality.
> (Mariampolski 2006, p.175)

4.1 Introduction

The aim of the study was to examine contemporary policy and practice in determining optimal nursing skill mix in acute hospitals in Ireland.
The specific objectives were:

1. To analyse current policy approaches to determine skill mix nationally and internationally
2. To examine how the term nursing skill mix is understood and used by managers and policy makers in Ireland
3. To explore nursing roles in contemporary practice

This chapter outlines the methodology selected for this study. Methodology refers to questions concerned with the manner in which knowledge about what exists can be obtained (Koch 1995). The aim of research irrespective of the design is to improve the knowledge base about that particular subject (Hockey 1991). Therefore, the design of this study, the ethical issues of the study and the methods of data collection and analysis are presented.

This is a multi-phased study, with the following two phases:

1. A review of national and international policies
2. Semi-structured interviews with mostly open questions to explore participants understanding of nursing skill mix. This study uses a descriptive qualitative design. Primary data were collected using semi-structured interviews. Fifty-four participants were interviewed, drawn from various levels of nursing management and policy-making within the acute healthcare system in Ireland. Some closed questions were added to

augment the study's findings. In all cases where closed questions were asked, participants were asked to explain or elaborate on their responses.

4.2 Design

This was a multi-phased study involving primary and secondary research. Primary research was undertaken using semi-structured interviews with key participants and contributed qualitative and quantitative findings to this study. The secondary research involved a review of international policy in the area of skill mix.

4.3 Policy review

A Policy review was undertaken to identify national and international policies on nursing skill mix. Content analysis of documentary evidence is valuable (1) because important evidence on a topic can be overlooked in its absence and (2) because a model for methodical qualitative analysis is presented with clear procedures for checking the analysis carried out (Joffe and Yardley 2004). This applies equally to content analysis of quantitative data. The content analysed here is from official, governmental or supra-governmental sources (Hart 2006 1998). Documents create a paper reality we call proof (Cooley1989) and documentary evidence is used in this study because it is valuable in reaching conclusions on the questions posed on nursing skill mix.

In this study official policy documents were reviewed from the Department of Health in Ireland, the Department of Health (DoH) in the UK, and from sources in the USA, New Zealand and Australia. The review of policy developments and reviews from the UK, America and New Zealand is taken from 79 publications, selected for relevance to the topic of nursing skill mix, sourced from 435 official publications. Content analysis is valuable because a model for methodical qualitative analysis is presented with clear procedures for checking the analysis carried out (Joffe and Yardley 2004). The qualitative data from the semi-structured interviews and quantitative data presented in later chapters are both primary data whereas the documentary evidence is secondary data. Content analysis of documentary evidence is different to a review of the literature of prior

research because the documents that are content analysed are from official, governmental or supra-governmental sources rather than academic sources.

4.4 Phase 2 - Semi-Structured interviews

Semi-structured interviews were carried out with key nursing informants in this phase of the study, in order to gather in-depth qualitative data on determining skill mix and nursing roles. The philosophical underpinnings of qualitative research will be briefly described to enrich the understanding of the nature of the data collected in this phase.

The debates surrounding research paradigms have a long history however in the context of this study interpretation on the debate contend that the struggle for primacy of one paradigm over others is irrelevant as each paradigm is an alternate offering with its own merits (Guba 1990, p.27). The term "paradigm" (defined as a world view or basic set of beliefs (Kuhn1970; Guba and Lincoln 1994) is an umbrella term overarching the quantitative and qualitative research traditions (Guba and Lincoln 1994). The research traditions are described on three main hierarchical levels (1) the ontological (2) epistemological and (3) the methodological levels (Guba and Lincoln 1994).

The qualitative research tradition is premised at the ontological level by relativism, the idea that experience is a changing process (Miles and Hubberman 1984; Hammersley 1992; Guba and Lincoln 1994). This is associated at the epistemological level with subjective perspectives and at the methodological level with hermeneutic research methods (that is interaction between the research tradition and the research phenomena). Words are the main currency of this research tradition and its objective is the construction of meaning in order to generate hypotheses. The accumulation of deep, rich, contextualised data is necessary to this end. Qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry. "In contrast, quantitative studies emphasize the measurement and analysis of causal relationships between variables, not processes. Inquiry is purported to be within a value-free framework" *(*Denzin and Lincoln 2000, p.34). The quantitative research tradition is premised at the ontological level of realism (the idea that the

world is fixed and our experience of it depends on the level of understanding we attain). Epistemologically, this is characterised by objectivity, resulting methodologically in use of the rationalistic research methods of the natural sciences (including experiments and surveys). Numbers are the main currency of this tradition and its purpose is to test hypotheses in order to determine truth.

A qualitative approach was adopted in this phase of the study as the research questions were exploratory in nature. Qualitative research is needed to help explore and discover the perceptions and subjective perspectives of participants about the complexity of their world (Muncey 2009). In the qualitative research paradigm, there are multiple perspectives congruent with a complex world, as opposed to the one reality of the positivists. The proponents of post-positivism did not believe that human behaviour was governed by general, universal laws (Muncey 2009; Crotty 1998; Guba and Lincoln 1994; Cohen *et al.* 2007; Crotty 1998). Rather they posit that human behaviour can only be understood by understanding the individual's interpretation of their world as perceived by the individual, and so is subjective in nature, not objective. Qualitative research is therefore seen as subjective in nature dealing with the experiences of people in specific contexts (Crotty 1998; Cohen *et al.* 2003). That is to say, to understand the subjective reality, or social reality, as individual people experience it, then participants' definitions of that reality must be accepted, and also how they cope within that context. This enables the post-positivists to make sense of the world in a way that the positivists cannot express (Crotty 1998; Cohen *et al.* 2003). Integral to this process also is the researcher, as she/he is the primary data-gathering instrument and so is integral to the process. This is fundamental to the process as multiple realities may be found, and human cognition is necessary to understand all the interactions that may occur in that context (Muncy 2009; Guba and Lincoln 1994).

Quantitative data were also collected in this phase of the study as there was a compelling argument for some quantitative evidence alongside qualitative evidence in order to demonstrate a measurable quantitative aspect to this topic also. However this was secondary to the rich qualitative data collected. The intention of the inclusion of quantitative questions was not to create a mixed methods study, but to augment the rich descriptions of the worlds of nursing of

participants with questions that allowed the measurement of factors identified in the literature as being of key importance to nursing skill mix practices.

4.5 Sampling

One of the crucial tasks in designing a research study is deciding the number and characteristics of the participants invited to participate in the study (Parahoo 1997). In this study purposive sampling was used, with the selection of information rich cases which related to participants involvement at different levels in the processes of determining nursing skill mix in acute general hospitals in Ireland. Parahoo (2006, p.472) describes purposive sampling as involving; "Making a judgement or relying on the judgement of others in selecting a sample"

Purposeful sampling is based on the assumptions that a researcher's knowledge about the population can be used to hand pick the cases to be included in the sample (Polit and Hungler 2001). Purposeful sampling is used in the collection of descriptive data and is seen as a useful method to explore participants' perceptions and subjective views. A purposeful sample may also be selected in a study when a highly unusual or specific group is under investigation but is not a representative form of sampling. Purposive sampling demands that the researcher thinks about the parameters of the population being studied and to choose a sample carefully on that basis (Silverman 2000).

The use of purposeful sampling is appropriate for this study as it allowed for the selection of 56 participants who were experienced nurses and policy makers who have involvement with determining nursing skill mix at different levels of the health services, from hospital wards to the national policy level. The sample consisted of choosing individuals who could provide a perspective on the issue under consideration nursing skill mix. The population for the study comprised of key stakeholders working at different levels of nursing in Ireland to include policy makers, senior nursing managers and CNM2s at ward level. In this study, it was appropriate to include participants working at national nursing policy level and in acute Band 1 general hospital settings who had experience of how nursing skill mix is determined. The sample consisted of 56 in total which included a

group of Directors of Nursing, Assistant Directors of Nursing and CNM2s from Band 1 Hospitals in Ireland. The sample was drawn to capture variations in spread of the band 1 hospitals across the country and to also include national level policy organisations. Band 1 hospitals represent the largest hospitals in Ireland. Participation was voluntary, and secured either on an individual basis or by contacting the participant's supervisor to invite individual participation on a voluntary basis. Fifty-four participants from 56 participants who were invited to participate took part in the research.

4.5.1 Inclusion criteria

Inclusion criteria were that participants must be nurse managers or policymakers involved in determining nursing skill mix for Band 1 acute general hospitals in Ireland. Band 1 hospitals were drawn from a register from the Department of Health and Children. In the general hospital listings as supplied by the Department of Health and Children, hospitals are divided into five categories, referred to as "bands". These range from Band 1 (the largest acute general hospitals) to Band 5 (the smallest non-acute hospitals). The total number of Band 1 hospitals listed was 11. Nine hospitals for this study were deliberately selected to ensure representation of all Band 1 hospitals in Ireland nationally. The sample represents the four geographical areas within the HSE (the West, South, Dublin North East and Dublin Mid Leinster). In summary the hospital sample included Directors of Nursing, Assistant Directors of Nursing and CNM2s from Band 1 Hospitals and Directors of Nursing and Midwifery Planning and Development Units from the West, South, Dublin North East and Dublin Mid Leinster HSE Regions as shown in Table 1.

Table 1: Breakdown of nurse manager participants in the study

Grade	West	South	Dublin North	Dublin mid Leinster	Number of Participants
Director of Nursing of NMPDU	1	1	1	1	4
Director of Nursing (hospital)	2	2	2	2	8
Assistant Director of Nursing	4	4	4	4	16
Clinical Nurse Manager 2	4	4	4	5	17
Total					45

Nine policymakers were selected through a nationwide sample selection obtained from the Health Service Employers' Authority, Dublin, which listed the names of all the Presidents and General Secretaries of nursing boards and national organisations involved in the governance and employment of nurses in Band 1 acute general hospitals in Ireland, to include participants from: Policy Division, Department of Health and Children, HSE, Health Service Employment Agency, An Bord Altranais (Irish Nursing Board), National Council for the Professional Development of Nursing and Midwifery, Irish Nurses Organisation, IMPACT and SIPTU (trade unions).

4.6 Ethical Considerations

"Ethics" are concerned with the right and wrong of a decision or action. In moral philosophy a consequentialist perspective considers actions in terms of the ability to promote benefit over harm (Beauchamp and Childress, 2001). Non – consequentialist perspectives are concerned with the nature of the act itself. All human actions may be viewed from one of these perspectives and are guided by the fundamental principles of respect for person, justice and the principle of benefice and non – maleficence (Holloway and Wheeler 2002). Scientific research is a form of human activity, which is therefore considered as an ethical activity. The ethics of research has two distinct dimensions:

1. The research activity itself, in particular with the responsibility and requirements of the researcher, and

2. The scientific knowledge that the research activity produces and, in particular, with the way knowledge is communicated. It also relates, to the worthiness and benefits of the research in terms of adding to scientific knowledge including the research process itself and the conduct of the researcher (Eby 2000).

All research involving human beings involves some human cost and it is the researchers responsibility to ensure that participants are not harmed, thereby, supporting the ethical principles of benefice and non-benefice (Holloway and Wheeler 2002). Therefore, I ensured that participants were fully informed about the purpose, aim and objectives of the research and what way the information will be used.

4.6.1 Ethical Approval

Gelling (1999) suggested that the primary obligation of a research ethics committee is to protect the rights of research participants. For the purposes of this study, I made an application for approval to the Research Ethical Committee of my academic institution for permission to undertake the research. The committee required a detailed ethics application form to be completed and submitted which was approved. When ethical approval was obtained, a letter outlining the nature of the proposed study and a formal request for permission to conduct the study was forwarded to Policy makers and the Directors of Nursing from the Band 1 acute general hospitals that were proposed as being the participants in the study (Appendix A). Access to Assistant Directors of Nursing and Clinical Nurse Managers was obtained through their respective Director of Nursing. A copy of the letter for negotiation of access is included in Appendix B.

4.6.2 Informed Consent

Informed consent is a legal principle that governs and regulates participation in research (Begley 2004). The principle of informed consent was developed out of recognition of a person's right to be treated as an autonomous agent who is

capable of self – determination (Usher and Arthur 1998). Informed consent implies that:

> The researcher has made the most honest effort possible to ensure that the participants understand the risks and benefits of participating in the study, they are informed about their rights not to participate and are presented with information that is free from overt or covert coercion. (Parahoo 2005, p.117).

The process of consent can be viewed as a static, once off event or a continuous process that requires negotiation throughout all aspects of the study (Parahoo 1997). Munhall (2007, p.268) describes the latter as "process consent" and suggested that the static model is inadequate for mixed methods research. Process consent is essentially about entering into a collaborative dialogue with the participants and fostering a consent dialogue throughout the research process (Usher and Arthur 1998). This requires that throughout the research process, the researcher constantly uses their "best skills" of listening, attending, clarifying, making explicit the implicit and genuinely attending to the person before them (Roberts 2006). As process consent was keeping to my own beliefs of working, so I adopted this model of consent for this study.

4.6.3 *Confidentiality*

Christians (2003) suggested that the single most likely source of harm in social research is the disclosure of private information that is considered damaging by participants; consequently, confidentiality and anonymity are generally acknowledged as important ethical dimensions of research. Although, sometimes, both concepts are used as synonyms, they have distinct meanings. 'Confidentiality involves the disclosure of personal information and entails the right to privacy; anonymity involves the disclosure of a person's identity and entails the right to remain unidentified' (Baez 2002, p.55). Both concepts are inextricably connected; confidentiality can often be accomplished by the use of anonymity. In this study, however, as participants were interviewed, anonymity to the researcher was not possible; thus, it was important to assure participants of a high degree of anonymity in the study, and confidentiality throughout the study

process. Confidentiality was maintained through the following procedures. Each tape recording and written transcript was given a code number. The name of the person did not appear on the tape recording or written transcript each transcript was given a code number.

Tape recordings and written copies of transcripts (hard copies) were stored in a locked cabinet in my home, where I was the only person with access. The record of consent was also stored in a locked, secure press away from the tapes and written transcripts. All data stored on my personal computer was password protected and stored in accordance with the Data Protection Act (Government of Ireland 1988). The only other person to have access to the tape recordings was the transcriber who was not personally known to the participants and, agreed not to speak about the content of the tape recordings. In order to preserve confidentiality, due consideration was given to the location of the interviews. The location and time of each interview was agreed in consultation with participants. In some instances, participants chose to be interviewed away from their work location. In these situations, an alternative venue was secured. However, the majority of the participants chose to be interviewed in their work location. The participants' choice of work location raised some ethical issues for me in relation to protecting their rights to confidentiality, as I was concerned that my physical attendance might indicate that they were contributing to the study. Therefore, if a participant opted to be interviewed in their place of work I explored the implications of their choice vis-à-vis confidentiality. It is interesting to note that none of the participants shared my concern. Baez (2002, p.44), commenting on confidentiality within research, suggested that confidentiality is rarely watertight, as 'some individuals and institutions are impossible to disguise and, in many contexts, insiders are able to locate a respondent'. Bearing these concerns in mind, transcripts were carefully cleaned for any identifying data such as the name of the participant's hospital or institution and participant's name.

4.7 Pre-Test/Pilot Study

I undertook a pilot study with seven participants to determine as far as possible whether the semi structured interview guide was clearly worded, free from major

bias and whether it gained the information required. According to Fielding (1993, p.28):

> It is important that a pilot test involving several interviews with participants is carried out, to inform the researcher to question and modify techniques used to determine whether the questions elicit the quantity and quality of data needed.

Berg (1998) also suggests that ideally pre-testing should have two stages. The first stage involves the initial pre-test of the instrument. Once the researcher has developed the interview guide and is satisfied with the general wording and sequencing of questions, a first draft of the interview guide is developed and pre-tested by submitting it for expert opinion to identify whether it is comprehensive in relation to the research area of interest (Brenner, Brown and Canter 1985; Berg 1998). Polit and Hungler (1999) also outline that the purpose of the pre-test is to familiarise the researcher with actual and potential problems in relation to the interview process and modify it accordingly.

The initial pre-test for this study was carried out using a number of steps from experts to include policy makers and directors of nursing to review the interviewing questions. The pilot test is described as a trial administration of the interview in attempt to identify flaws or assess time requirements (Polit and Hungler 1999). It also serves to determine in so far as it is possible whether or not the instrument is clearly worded and free from major biases and whether or not it elicits the type of information envisioned (Polit and Hungler 2002). The second stage of the pre-test is the pilot test (Glesne and Peshkin 1992; Fieldings 1993; Tutty, Rothery and Grinnell 1996). In this study, I drew on seven volunteer participants from a group of policymakers and Directors of Nursing and their staff. The pilot study involved several practice interviews where participants were encouraged to be critical of my interviewer skills. Volunteer participants acted as judges to advise me in relation to my questioning techniques which may bias participant's answerers (Fielding 1993). Changes to my interview techniques and skills were made accordingly and included making use of many interpersonal skills such as active listening and note taking. In addition, this was

done to determine whether the questions would elicit the quantity and quality of data needed (Tutty, Rothery and Grinnell 1996). As there were no major changes to the interview guide, the data form these seven participants were included for analysis in this study.

4.8 The interview process

The interviews were conducted at the workplace of the participants or where it was most suitable/ convenient for the participants during the months of May 2005 and September, 2006.

4.8.1 Contact with participants

All participants were sent written information prior to their interview about the study which contained an exploration of the study including the aims and objectives and the procedure for protecting their identity. Participants were also informed that they had the right to withdraw from the study at any stage without obligation. Upon my first personal contact with participants this information was reiterated verbally and the participants were given the opportunity to ask questions and seek clarification on any issues before they consented to be interviewed. My aim during this initial discussion was to encourage an open exchange of information where the participants felt free to ask questions, seek clarification and agree or decline to be interviewed without fear or repercussion.

4.8.2 Preceding the interview

Prior to commencing the interview, a detailed explanation about the research process was reiterated and participants were informed that they had the right to withdraw at any stage, decline to answer questions or request to have the tape – recorder turned off without obligation. At this stage, participants were again given the opportunity to ask and seek clarification on issues before the interview commenced. I was aware of the potential issue of familiarity between the interviewer and the participants as I was a former Director of Nursing from a Band 1 Hospital. Krueger and Casey (2000) states that "Familiarity tends to inhibit disclosure" therefore prior to the commencement of the interview I gave a full explanation of the aim of the study and the research design. The issue of confidentiality was discussed and assured and my role and the role of the

participants in upholding it were agreed. Participants were made aware of their freedom to end the interview at any time. I refrained from offering opinions or answering questions during the course of the interviews.

Following an explanation of the consent form and sufficient time for the participants to read it thoroughly, each participant was then asked to sign the consent form giving written consent. Signing the consent form at this stage indicated that they were consenting to be interviewed and have the interview tape recorded. All participants agreed to sign a written consent form in this study.

4.8.3 The interview

In this study I used a semi structured interview with nurse managers and policy makers. According to Barriball and While (1994), the semi interview provided an opportunity to retain the meaning of questions, even if the wording is slightly changed to suit the participant. The tool used in this study consisted of broad areas of questions in relation to how nursing skill mix is determined in acute general hospitals at the same time allowing me to ask additional questions if they were appropriate. According to Parahoo (2006) semi structured interviews can have elements of qualitative and quantitative research. The interview guide used in this study consisted of both qualitative and quantitative preformulated questions (Appendix C).

A positive rapport between researcher and participant is crucial to a successful interview; therefore, careful planning is essential. I conducted the interviews as far as possible in an informal atmosphere. The interviews for the Directors of Nursing, Assistant Directors of Nursing and Clinical Nurse Managers were conducted in hospital setting where the participant worked, in a room that was easily accessible and free from outside distractions or wherever was convenient for the participants. For the policymakers, the interviews were conducted in their workplace too. Interviews were conducted over a period of three months and ranged from 50–90 minutes long.

During the interview I was aware of the participants "non-verbal" interactions. If the participants appeared uncomfortable, I asked the participant if they wished to

continue with the interview. Throughout the interviews I actively listened to participants responses and if appropriate, added clarity to participants' comments as suggested by Polit and Hungler 1993). It was incumbent that I did not influence the participant's response. Throughout the interview, I endeavoured not to engage in social conversation and thereby contribute to the collection of relevant data. In an interview setting, not every word has the same meaning when different probes, inflections and accents are used. Therefore, I attempted to ask all questions in a similar fashion, keeping variations to a minimum (Steubert and Carpenter 1999).

The progression of each interview was highly dependent on the nature of the experiences and responses of each participant, and discussion in interviews involved a wide range of years and experiences relating to nursing skill mix. The semi structured interview guide facilitated this process and ensured that the interviews were focused. When closing the interview, I thanked the participants for their contribution, and I confirmed the meaning of any words that could cause ambiguity and asked if there were any further questions. A further appointment was arranged if appropriate but was not requested by any of the participants. Transcripts were typed immediately by me immediately following the interview.

The interview guide used when interviewing participants was a flexible tool to enable me to explore the aim and objectives of the study (see Appendix C). Interview guides "help researchers to focus an interview on the topics at hand without constraining them to a particular format. This freedom can help interviewers to tailor their questions to the interview context/situation, and to the people they are interviewing" (Lindlof and Taylor, 2002). The interview guide questions were initially developed from the current literature pertaining to nursing skill mix.

Munhall and Oiler (1986, p.10) also insist that in attempting to gain real knowledge, "the researcher must adopt an attitude of openness, participation and empathy." I was aware of the importance not to lead the participant but rather to prompt participants to give real examples and illustrate their experiences reflected to the questions of the research study. Thus, open-ended questions and

probing questions were used to initiate the discussion in an attempt to enable participants to recall their experiences, with some closed questions to ascertain specific measurable information pertaining to nursing skill mix. The interview guides were divided into eight sections (with the option of making additional comments) to give structure to provide a navigational path for the participants and provide a framework for data analysis. These sections included:

1. Understanding of terms
2. Nursing roles
3. Responsibility for skill mix determination
4. Factors influencing skill mix determination
5. Principles underlying skill mix determination
6. Guidelines for skill mix determination
7. Staffing and skill levels
8. Research and education
9. Any other comments

In so structuring the semi–structured interview guides it was my intention to ensure that the questions were user friendly which would enhance the participants' understanding of what was being asked of them (Dillman 2000).

4.8.4 Post interview

When the interview had concluded I spent time with the participant having some social conversation. The participants were given a telephone number where they could contact me if they wished to discuss any aspect of the interview process.

4.9 Research rigour

Establishing what counts as rigor or trustworthiness in qualitative research has concerned researchers for the last quarter of a century (Bowen 2005). Despite all the debate there are many unanswered questions, debatable issues and dichotomies on this matter (Cutcliffe and McKenna 2004) which may be perceived as a study limitation. In response to what has become termed the 'crisis of representation' (Flick 2009) and the view that all criteria are social constructions (Morse *et al.* 2002), debates have centred on whether it is possible

or even desirable to establish a consensus on criteria for assessing quality in qualitative studies. These debates are entangled within the wider modernist and postmodernist epistemological and ontological discourses and reflect the multitude of terms used. Rigour, standards, criteria, principles, guidelines, quality, goodness and trustworthiness are used interchangeably within the literature with little consensus on their meaning (Emden and Sandelowski 1999). This vast array of terminology, doubtlessly led Morse *et al.* (2002) to describe the literature on validity as being muddled to the point of being unrecognisable.

Views on what constitutes criteria for trustworthiness, the qualitative version of rigour, range from positions that reject the notion of criteria altogether, to the identification of criteria specifically for qualitative research, to the retention of concepts drawn from quantitative research (Spencer *et al.* 2003). Morse *et al.* (2002) believe that to ignore the criteria of validity and reliability is to reject science, and to cast qualitative research adrift from the scientific community, fostering the notion that qualitative research lacks rigour and, by default, confining it to a form of fictional journalism. Other writers, while agreeing on the need for a grand narrative, are of the opinion that to import criteria developed for another research paradigm is to favour that paradigm. For example, positivism and interpretivism are epistemologically divergent (Leininger 1994; Lincoln 1995; Emden and Sandelowski 1998, 1999). Consequently, writers have been creative in proposing an array of alternative criteria considered more congruent with the epistemology and aims of interpretative enquiry.

By contrast, Heshusius (1994) suggested that if something is good you should 'know' it, and it is a mark of naïvety, regression and a return to positivism to depend on any list of criteria to decide on trustworthiness, as no criterion can be independent of the community that produced it. This view is akin to Sandelowski and Barroso's (2002) and Rolfe's (2006b) arguments against epistemic criteria for evaluation; instead, they advocated that research should be judged against aesthetic and rhetorical considerations, which are revealed in the report itself. Thus Rolfe (2006, p.309) suggested that it behoved the researcher to leave a 'super audit' trail of the actual course of the research, rather than an idealised view of what occurred. This audit trail should recount the rationale

underpinning decisions taken and include an ongoing self-critique and self-appraisal. Other authors have stressed the inter-relationship between trustworthiness as an intellectual academic pursuit and an ethical way of being (Emden and Sandelowski, 1998; Davis and Dodd, 2002).

Although these debates help reveal the contradictions within research reports, they do not, as Parson (1995) suggested, help the researcher decide the criteria to determine the quality of the study, or offer an answer on trustworthiness or rigour. Given the expanding array of criteria and Hammersley and Atkinson's (1995, p. 69) assertion that 'there is no bedrock of truths beyond all doubt, which can be used as the basis for assessment'; I therefore took Koch's (1996) advice to select or develop the most appropriate criteria for the study. In this study, I used both qualitative and quantitative approaches within one study. These fitted the methodology and are similar to criteria identified by other writers. Selecting this criterion is not to dismiss Rolfe's (2006a) suggestion of an audit trail, as I endeavoured in chapter four to describe the rationale for decisions made.

A number of writers talk about the importance of reflexivity in relation to rigour (Hall and Callery 2001; Davis and Dodd 2002; Rolfe 2006b). Reflexivity involves the researcher's awareness of biases and assumptions that may impact on the study (Hall and Callery 2001). In relation to reflexivity, a balance is necessary between turning the research into an auto-ethnographic study, where the focus of the research is more on the researcher than the participants and the substantive area, and ignoring the status of the researcher as instrument. Within this study, I endeavoured to use the methods of thematic analysis using a framework described by key authors Lacey and Luff, 2001; Ritchie and Spencer 1994; Ritchie, Spencer and O'Connor 2003) that facilitate reflexivity. Although Lacey and Luff (2001) do not speak of reflexivity per se, they offered advice on how to minimise what he calls conjectured theory. Therefore, I aimed to minimise personal bias and check that my conjectures were supported by the data.

4.10 Qualitative data analysis

A thematic analysis is a search for themes that emerge as being important to the description of a phenomenon (Daly, Kelleher, and Gliksman 1997). The process involves the identification of themes through "careful reading and re-reading of the data" (Rice and Ezzy 1999, p. 258) and it is a form of pattern recognition within the data, where emerging themes become the categories for analysis. According to Byrne (2001, p.139) researchers must become deeply immersed in the data, sometimes referred to as "dwelling" with the data:

> Qualitative data analysis results in large amounts of contextually, subjective, and richly detailed data. This data usually originates from interview transcripts and must be pared down to represent major themes or categories that describe the phenomenon being studied. This paring and sieving of data often is termed thematic analysis.

In this study a thematic analysis was conducted and facilitated using a framework (Lacey and Luff 2001; Ritchie and Spencer 1994; Ritchie, Spencer and O'Connor 2003) which consists of five key stages to include: data familiarisation; initial coding; indexing; broad category and sub-category development; and interpretation

4.10.1 Familiarisation phase

Each interview was transcribed verbatim by me following an interview and before conducting subsequent interviews. According to Boyatzis (1998, p.45) the process of paraphrasing or summarizing each piece of data "enters information into your unconscious, as well as consciously processing the information" This process involves reading, listening, and summarising the raw data. I used this technique as a first step when analysing each transcript. I then assigned codes donating the content of those statements. Thereafter, I commenced the familiarisation phase which involved reading and re reading the initial data to identify broad categories and codes within those categories. The pages of transcripts were coded and referenced with analytic memos as considered appropriate.

Throughout the data analysis I kept analytic memos written beside the relevant paragraph of the typed transcript which facilitated the connection of empirical data to abstract concepts (Chenitz and Swanson 1986). Codes were then compared and similar codes distributed into broader categories. This was followed by a consideration of the relationship that exists between emerging categories. Bowling defines data coding as "relating sections of the data to the categories which the researcher has either previously developed or is developing on an ongoing basis as the data are being collected" (Bowling 2002).

4.10.2. Thematic framework

Secondly, I then applied a thematic framework**.** During this stage the initial coding framework was developed from issues that emerged during the interviews. The coding framework was discussed with my supervisors to uncover any inconsistencies and to satisfy criteria of reliability. The initial categorisation exercise was carried out by my supervisor and me after the completion of the first couple of interviews.

4.10.3 Indexing phase

During the third stage called the "indexing phase", the thematic framework was applied to all of the interview transcripts thus specific pieces of data could be identified which corresponded to the different codes. The data was broken into substantive codes, and incidents or phrases were underlined in the transcript as appropriate. When coding was complete, the purpose of finding relationships within the data followed. The next step then involved combining and cataloguing related patterns into sub-themes. Themes are defined as units derived from patterns such as "conversation topics, vocabulary, recurring activities, meanings or feelings" (Taylor and Bogdan 1989, p.131). Themes were identified by "bringing together components or fragments of ideas or experiences, which often are meaningless when viewed alone" (Leininger 1985, p. 60). As a result, themes that emerged from the participants interviews were converged together to form a comprehensive picture of the participant's collective experience as described by Leininger, (1985, p. 60):

> The coherence of ideas rests with the analyst who has rigorously studied how different ideas or components fit together in a meaningful way when linked together.

4.10.4 Coding categories and subcategories

When applying the framework approach, the fourth stage is charting when data are extracted into charts according to broad themes and categories. This step was not followed according to the framework. Instead I coded groups according to broad categories and subcategories and linked the data to each code manually. This process was discussed, redefined and agreed with my supervisor. I then organised the coded broad categories and subcategories into categories. Categories are simply clusters of coded data that fit together, according to Benton (1991). The constant comparative method of data analysis was used in an effort to generate categories. When categories are developed, they were then assessed and grouped together.

4.10.5 Mapping and interpretation

The final stage involved mapping and interpreting the data for patterns, associations and explanations. This was achieved by reducing the number of categories that occurred and collapsing similar categories into higher order ones. Data collection and analysis continued until no new categories were developed or existing categories were no longer expanded upon. Data collection continued until no new data emerge and the data were viewed to be "saturated" (Morse 1998). Chenitz and Swanson (1986) propose that at this point category saturation has occurred. Codes were then grouped into categories and emerging relationships between categories identified (Field and Morse 1998). In many qualitative approaches, these clustered ideas are referred to as themes, which are structural meaning units of data.

Throughput the data analysis I used a word processor for transcription purposes. Computer-Assisted Qualitative Data Analysis Software (CAQDAS) programmes are available to code and analyse the data (Lee and Fielding 1995) but were not used in this study. Consequently, the data was stored on a hard drive of my

computer and saved onto a disk as a back-up and stored in a locked cupboard to ensure confidentiality of participants.

4.11 Quantitative data analysis

Quantitative data are particularly suited to analysis by statistical methods (Elliot 2005). Because this study included 54 participants, responses to the closed questions asked of all participants can be analysed quantitatively. Quantitative data can be analysed using descriptive statistics. The first involves organising raw data into some order by use, for example of frequency of distribution and histograms. Descriptive statistics are mainly used to summarise raw data (Polit and Hungler 1991). Researchers wishing to describe something more general covering the wider population from the specific sample achieve this through inferential statistics. Inferences are made about the population based on the sample (Champagne 1991).

There are four major classes or levels of measurement, nominal, ordinal, interval and ratio measurement. The two main types that were used in this study were nominal (e.g. group) and ordinal measurement. Nominal data are frequently organised using contingency tables. Using this strategy a comparison can be made with two or more categories of one variable with two or more categories of a second variable (Burns and Grove 2007). Contingency tables can be presented with no further analysis conducted, or in many cases statistical analysis such as chi-square can be carried out to identify the relationship or differences between cell values. Ordinal scales differ from nominal scale in that it ranks the different categories in the scale in terms of a graded order. In this study as numbers within each group of participants are small, results are not statistically tested for differences between groups.

4.12 Framework for the discussion chapter

The research has used a theoretical framework for discussing the results of the research based on Ritzer's integrative theory of social analysis. This provides a comprehensive and integrated analytical framework that brings together the study findings. This framework draws on Ritzer's (2008) macro-micro and subjective-objective continuum to facilitate the analysis of the phases of the study. This takes account of the multi-faceted nature of the topic of nursing skill

mix and its relationship to changes in the healthcare environment arising from healthcare reforms, organisational and policy developments, and changes in the delivery and nature of healthcare from demographic and technological changes. In turn these developments have impacted on nursing skills determination, changing nursing roles, professional development and clinical governance, amongst other areas. This framework has been used in the discussion of the results of the research in order to provide a better understanding of the need for an integrated approach to determining nursing skill mix that takes into account the factors on the objective-subjective continuum that need to be considered in providing an evidence base for determining effective outcomes skill mix. The framework is further described at the start of the discussion chapter (see page 160 below).

4.13 Conclusion

This chapter described the design of this multi-phase study which encompassed a policy review and semi-structured interviews. The ethical aspects of the research, the data collection process and analysis undertaken were described. The findings are presented in the following chapter.

Chapter 5
Phase 1: National and international policy review

> The implications of doing nothing to improve nurse staffing in low staffed hospitals are that a large number of patients will suffer avoidable adverse outcomes and patients will continue to incur higher costs than necessary. (Swanton 2004, p7)

5.1 Introduction

This chapter describes the findings of a policy review that was undertaken in order to synthesise past and current national and international policy initiatives around nursing skill mix in order to generate an evidence base that can underpin policy developments in Ireland and elsewhere.

5.2 Sources of documentary evidence

The main sources of documentary evidence used in this study are the Department of Health and Children in Ireland, the Department of Health and the National Health Service in the UK and governmental sources in Australia, Canada and New Zealand. The search strategy for this review is described above (page 20).

5.3 Policy on nursing skill mix in Ireland

The topic of nursing roles and skill mix has become more prominent in Irish discourses since the publication of the Report of the Commission on Nursing in Ireland in 1998. This report recommended the introduction of a range of new nursing roles such as senior staff nurse, CNM1, CNM2 and CNM3, clinical nurse specialist and advanced nurse practitioner to improve the quality of patient care. These roles were introduced but the impact of these roles on patient outcomes has not yet been fully evaluated.

Following this important report the use of care attendants also increased in Ireland. It may be argued that RNs should welcome the opportunity for a more fluid and progressive role for “care attendants” within their nursing teams, since, failing such an opportunity, managers could otherwise continue to ‘decrease’

registered nursing staff numbers with no alternative staff substitution. A fundamental re-evaluation of the current competencies of non-registered caregivers, such as HCAs and of their potential to progress into RN training should be considered. The cost differential is an important factor here. For example, reference by the Department of Finance (2009) can be used to calculate the total cost of an hour's work by a nurse (including pension, leave, and all costs), which is estimated at €32 an hour. Overtime costs a third less than a full-time nurse and less than the cost of a care assistant. If you can have a better-skilled, better-qualified and more experienced nurse for a similar or lower cost than a care assistant, the need to appoint nursing assistants in the context of nursing skill mix could be contested in the future. A consequence of reform and major workforce restructuring initiatives in Ireland is that changes in skill mix such as the introduction of health assistants and the introduction of new clinical roles have taken place with little formal monitoring and evaluation of the effects of these changes. The National Council for Nursing and Midwifery in Ireland (2005) in a study evaluating the impact of the role of Advanced Nurse Practitioners found that some information was being collected to measure care by Advanced Nurse Practitioners but it was mainly descriptive. Also, there is a need for evaluative research on the impact of Advanced Nurse Practitioners and patient care. The study however suggests that outcomes of Advanced Nurse Practitioners roles in the context of care are positive in terms of providing holistic, clinical, autonomous, timely care for patients. Nursing management is not yet as developed in Ireland as in the UK and the changes in nurse management introduced by the Commission on Nursing (1998) will require several years before skill mix management will become competent and effective.

In Ireland the Report of the Commission on Nursing (1998, p7) recommended that an examination of the nursing and midwifery resource be undertaken by a steering group under the auspices of the Department of Health and Children. The findings in the *Interim Report* (1997, p15) suggested: "In the tightening labour market there is likely to be a re-assessment and re-evaluation of professional roles and consideration to the concept of 'substitution' and 'redistribution of tasks' of nurses." However, on what premise this recommendation is made, is unclear, whether it related to reviewing the role and function of nursing grades or

the delegation of certain tasks performed by nurses. This view was challenged by Shannon in Ireland (2001 and 2002). Shannon (2001, p.6) in the *Effective Utilisation of Professional Skills of Nurses and Midwives Irish Report* recommended that the grade of HCA/maternity HCA be introduced as a member of the health care team to assist and support the nursing and midwifery function in Ireland. The Report also recommended that the nursing/midwifery function remain the preserve of nurses and midwives to ensure the profession is effectively regulated, educated and developed. This view was further supported by Shannon (2001, p.11) who outlined in an Irish Department of Health and Children Report that:

> There is no substitution for the skilled expertise of the qualified nurse who must remain central to the assessment, planning, implementation and evaluation of patient-care and to the supervision and delegation of all activities relation to patient care.

However, while the role of HCAs is evolving, the progression of the role has taken place without regulation, and sometimes without clear boundaries, or systematic education and training. This raises serious concerns, especially with regard to the issues of patient safety and quality of patient care and the need for evidence based research to explore these concern.

The Irish documentary evidence illustrates that student nurses are engaged in a variety of tasks and activities. Therefore, student nurses were trained both in nursing and non-nursing tasks and were essentially required to perform both. This may in some ways have contributed to the blurring of the boundaries around the current role of a staff nurse working in Ireland to be further explored in this study.

The Dublin Academic Teaching Hospitals' (DATHs) *Skill Mix* Report (2001) indicated there was a lack of consistency and guidance in determining nursing workforce methods requirements and the lack of clarity regarding the responsibility and authority of the nursing workforce in relation to their roles,

and a somewhat centralised approach to determining nursing skill workforce compromised nursing skill mix requirements within DATHs Hospitals.

The National Council for Nursing and Midwifery in Ireland evaluated the effectiveness of Clinical Nurse/Midwifery Specialist roles (2004). Using a mixed method study consisting of an extensive literature review, focus groups, analysis of the National Council's CNS/CMS database and a questionnaire involving 1,487 clinical nurse specialists and clinical midwife specialists they found that the introduction of the role of clinical nurse/midwife specialist in Ireland has been successful judged on responding to service demands in a flexible and innovative manner. Service demand examples included the establishment of nurse/midwife-led clinics and the development of specialist posts across services at regional level. The posts have clearly embraced the core five concepts of the role (clinical focus, patient advocacy, education and training, audit and research and consultancy), and post holders have been empowered to improve the quality of care for patients/clients. There was overwhelming support from clinical nurse/midwife specialists, directors of nursing and midwifery, clinical nursing and midwifery managers, staff nurses, staff midwives and service users (2,251 participants in total) for the effectiveness of the role of clinical nurse/midwife specialist and that there was great potential for the role to develop as it continues to respond to service need. However the study outlined some limitations to these roles in that the educational component of the role requires further development. Furthermore the need for a planned, coordinated review of the role at local, regional and national levels, which should be linked closely to service planning. This is important from the perspective of how nursing skill mix is determined particularly on the future shape and structure of nursing skill mix in Ireland if clinical nurse specialist roles are not continuously evaluated in the context of service planning.

The Lourdes Inquiry (Government of Ireland 2006) found that nursing role confusion led to poor accountability and ineffectual governance. It is therefore imperative to enhance collaborative working within the multidisciplinary team to facilitate harmonious work across professional divides. This ensures the most appropriate use of nursing skill mix to deliver safe care.

5.4 Policy on nursing skill mix in the UK

The documentary evidence presented here is from 79 publications selected for relevance to the topic of nursing skill mix from 435 official publications in the DoH library. The list of 79 publications is presented on page 263. A general view is presented here first, in three paragraphs, and a year by year recount of developments is then presented.

A number of factors exist that influence the determination of nursing skill mix. These include pressure of increased workload particularly increase in patient acuity, and the need to measure skill mix alongside patient outcomes, including patient safety. These influences have led many acute hospitals to review methods they use to determine skill mix, including benchmarking. The Audit Commission in England (2001) outlined that benchmarking data can be useful in setting establishments for staffing numbers in acute general hospitals. By providing inter-Trust Hospital comparisons they challenged accepted historical staffing patterns within Trusts. The Commission outlined that simply imposing benchmarks as "norms" will almost certainly be viewed with suspicion by staff. A combination of both benchmarking and consultation or workload measurement will help to determine establishments that are rationally based and fair.

The Audit Commission UK (2001) also outlined a summary of the principles for effective benchmarking to include transparency; (ensuring that all staff are able to see how staffing levels are determined); integration (where all staff are involved in the process of how staff are determined); observing staffing comparisons to similar organisations; and establishing clear measurable outcomes for an organisation. Nurses need data and information to make decisions. Managing data is complex in a general hospital care environment in which there are few standard ways to collect and compare vital data elements in order to manage care delivery outcomes. However, by developing benchmarking with other similar organisations using contextual nursing covariates of patient outcomes that can be described, analysed, and compared can be valuable.

Acute general hospitals in the United Kingdom are increasingly challenged to balance quality patient care within nursing resources, which are often constrained. It is important that available nursing skill mix resources are allocated, using the best evidence at hand. Benchmarking as a process to determine nursing skill mix is an approach that enables nurse managers (at different organisational levels) to gain information about their nursing skill mix by comparing their data with those of other similar hospitals (if these hospitals are well defined). Further, benchmarking can be used by senior policy makers to assist in evaluating nursing skill mix and outcomes for different acute hospitals nationally. The national surveys of the Care Quality Commission (66,000 patients in 2010) can be examined hospital by hospital by anyone and this data provides the benchmark data since 2002.

By 1996 in the UK skill mix development was directed at closing identified skill shortages. Nurses, midwives and health visitors were told they must learn marketing skills to be active in the NHS purchasing process and in shaping the type of care provided in the future. Skills and training requirements of information managers and their staff was a gap bridged. Organisation and staffing, skill mix, training and education, and the changing role of the neonatal nurse was the subject of a DoH book. Communication skills between consultants and patients was another focus and the Chief Nursing Officer sent a letter about making the best use of limited numbers of highly skilled nursing staff to cope with an increase in paediatric intensive care beds.

In 1997, a research study on the effectiveness of Project 2000 nurse education investigated whether the skills acquired by nurses met the expectations of health service managers. It assessed whether perceived skill deficits can be addressed by changing the training. It also looked at defining the concept of nurse training as an investment in human capital, and developing a system to monitor the way in which competencies required of nurses change. Managers felt that Project 2000 trained nurses trained did not match their expectations of a newly qualified staff nurse. Final year Project 2000 students, they said, lagged behind their conventionally trained colleagues. The report concluded on what could improve the fitness for purpose of Project 2000 training.

Competences in 20 primary health care teams were assessed in 1998. *The skills planner. Working in the Department of Health 1999-2000* was published in 1999 and practice guidance notes on safe and supportive observation of mental patients at risk were provided. The NHS also addressed English language and communication skills for EU nationals in 1999.

A report on professional roles in anaesthesia in 2000 evaluated a range of models and skill mix for the provision of anaesthetic services that identified models of good practice to recommend to the NHS Executive Board. A new HRM initiative to equip professionals with the best practical skills to play a full part in the leadership of the health service was announced. A new national Human Resources Performance Framework (HRPF) supported the health service in measuring and maintaining progress on the three strategic aims of *Working Together - Securing a Quality Workforce for the NHS*, to ensure that the NHS has a quality workforce, in the right numbers, with the right skills, and diversity, organised in the right way, to deliver the Government's service objectives for health and social care. In 2001, a practical handbook was issued on the role managers can play in ensuring effective delivery of high-quality health and social care services to users. It aimed to develop skills to manage and improve such services, using examples from social care and health settings to illustrate techniques for managing people, resources, information, projects and change. It considered the necessary skills and systems to enable service users to contribute to planning and evaluation. Explanations of essential management tools and concepts were given. A guidance note that supported the nursing contribution to the implementation of reforming emergency care set out national and local performance targets and to the prerequisite nursing skills, knowledge and competencies. In May 2001, implications for the future of the effects of skill mixing in primary care were assessed. The Chief Nursing Officer wrote about the staff development strategy for the finance function of the NHS to equip finance staff with appropriate skills for supporting clinical professionals and managers to deliver the modern, patient-focused service envisaged by the NHS Plan. In December 2001 the NHS gave direction for future work required to ensure that the nursing workforce in acute hospitals had the appropriate knowledge, skills and competencies to meet the needs of patients with acute and critical illness,

regardless of where they were nursed. This supported a strategic programme launched earlier in 2001.

In 2002, a joint medical and nursing advisory committee brought forward creative solutions to meeting clinical workforce shortfalls in the NHS. The joint statement drew attention to the need to deliver and improve the performance of services other than elective services. A NHS publication compiled examples of new ways of working in stroke care which had been introduced by a range of providers. The aim illustrated how new roles met patients' needs more effectively, while at the same time giving staff more opportunities to develop their skills and experience. Comments were sought on the proposals to allow supplementary prescribing to be carried out by pharmacists and nurses to enhance patient care by providing quicker and more efficient access to healthcare through an increased and flexible use of nurses' and pharmacists' skills. The Department of Health response to The Bristol Inquiry included improvements in skill mix. In May 2002, guidance in supporting someone with mental illness or substance abuse problems provided a framework within which staff could strengthen services so that they had the skills and organisation to tackle this demanding area of work. This was seen as one of the biggest challenges facing frontline mental health services. Similar guidance was given to those involved in stroke care to illustrate how new roles could meet patients' needs more effectively, while at the same time giving staff more opportunities to develop their skills and experience. A major review took place in 2002 of the information required to support all aspects of workforce development. This included workforce planning, planning and commissioning education, training and development, professional regulation, new ways of working and changes in skills and skill mix, recruitment, retention and return, and changes in employment practices. A position paper explored key issues for nursing skill mix within workforce planning, particularly shift work.

In 2003, a systematic review of the literature helped to select and apply methods for estimating the size and mix of nursing teams, followed by a comprehensive review of skill mix and staffing methodologies used in general nursing settings, through the Nursing Quality research programme. Skill mix tools were provided for matrons and ward managers in 2003 and in March the NHS published the

Knowledge and Skills Framework and development review. A radiography services skills mix project soon followed. A toolkit for Primary Care Trusts and others working in the field of promoting good sexual health and HIV prevention provided a range of practical, usable tools for those working in that field, adapted to particular work settings, client groups and service users and workers' own levels of confidence, experience and skills. A Healthcare Skills Toolkit, a comprehensive competency-based guidance tool for all prison healthcare staff, helped Prison Service managers to effectively identify the skills required in their workforce to best meet the identified health needs of prisoners. This was followed, in October 2003, with an instruction to introduce the new Healthcare Skills Toolkit to Governing Governors and Directors and Controllers of contracted out prisons, and used in the workforce planning and staff development process and guidance to the formal introduction of HCAHCAs (nursing grades A and B) to the Prison Service. Guiding principles in communication skills training in pre-registration and undergraduate education for healthcare professionals were provided in August, 2003. Alan Milburn, Secretary of State for Health, praised the professional skills and dedication of staff showed in preparing for winter 2003 and in delivering better care at a time of peak demand.

In 2004, mechanisms for using the skills developed through volunteering were examined with ways for NHS employers to use volunteering in contributing to community development. A skills escalator resource pack brought together all related skills policy and guidance into one CD pack and 22 information cards. Progress in escalating skills was then measured. Improving mental health care was a 2004 priority for the NHS to develop a workforce with the skills suited to a modern service, particularly education and training in race equality in mental health services. The NHS issued the *Knowledge and Skills Framework Handbook* used for national roll-out of the Agenda for Change and the Development Review Process in October, 2004. A report on the right Skill, right time and right place for emergency care practitioners illustrated the development of the ECP role in the management of patients who require emergency (unscheduled) care.

The 2005 NHS Institute for Learning, Skills and Innovation document, *The Way*

Forward, fostered a learning and innovation culture. An audit of the skills for the Saving Lives programme was primarily implementation skills to reduce hospital infections including MRSA. National liver transplant standards were issued which needed very special skills and facilities. Guidance on a framework of skills for health competences was provided for the care of people with long term conditions, and principles of application and excellence and leadership skills within urgent care. Multi-Professional Education and Training (MPET) provided funding for additional education and training activities. Support and skills were provided to experienced hospital nurses to move into community matron roles to work across primary and secondary care, using their skills fully in community settings. An integrated career framework for all healthcare scientists based on the concept of skills escalation was implemented and, later in 2005, they were given opportunities to develop enhanced clinical and scientific skills, particularly at the medical scientific interface. A human resources framework and leadership and diversity skills were implemented for Strategic Health Authorities and Primary Care Teams to commission a patient-led NHS to deliver service improvements.

In 2006, guidance on day services for people with mental health problems was provided to promote social inclusion and promote the role of work and gaining skills in line with current policy and legislation. The Chief Nursing Officer identified the competencies and capabilities, including knowledge and performance criteria, essential for mental health nurses at the point of registration. The nurse prescribers' extended formulary and the introduction of independent prescribing by pharmacists supported the Government's desire to ensure that patients both in the NHS and the independent healthcare sectors were treated in the same way with more access to professional skills and timely treatment. An assessment toolkit was provided in 2006 for competencies for providing more specialised sexually transmitted infection services within primary care for assessing the range of competencies in skills, knowledge and attitudes required to manage sexually transmitted infections (STIs), when delivering more specialised sexual health services within primary care. This ensures clinicians have the relevant skills and competence.

The 'creating capable teams approach' (CCTA) was implemented in 2007 to help

mental health teams to reflect on their current and future capabilities and skill mix to help to deliver new ways of working (NWW) in Mental Health. A letter sought support for embedding the Knowledge and Skills Framework to realise the benefits of Agenda for Change through the NHS Knowledge and Skills Framework (KSF). A statement set out the vision and purpose of a skills academy for social care. Factors behind different MRSA rates were examined by hospital organisation, specialty mix and MRSA.

In 2008, the national education and competence framework for advanced critical care practitioners described the education, skills and competencies of advanced critical care practitioners. Common Core Principles were developed with Skills for Health and Skills for Care for employers, managers and workers in health and social care services for service users to get the most out of their care. Skills needed to deliver modernised, efficient pathology services were analysed. A letter summarised recommendations from NHS Knowledge and Skills Framework for trust boards. A National Education and Competence Framework for assistant critical care practitioners was implemented. A skills academy for social care was proposed.

A stroke-specific education framework was developed in 2009 by the UK Forum for Stroke Training following the National Stroke Strategy's recognition that staff working in stroke had variable levels of knowledge and skills with no nationally recognised stroke specific training.

In 2010, the document on planning and developing the NHS workforce: the national framework was designed to support SHAs in leading the debate about the future shape of services and what this means for workforce skills, competences, numbers and locations and commercial skills guidance for the NHS was superseded. The first NHS Outcomes Framework was published.

The Chief Nursing Officer Voicepiece, in April 2011, framed the future for nursing and midwifery. The NHS Chief Executive sought a review on how the spread of innovations can be accelerated across the NHS. The common core principles for supporting people with dementia were produced jointly by the

organisations Skills for Care and Skills for Health. They can be used to support workforce development for any member of staff, in any health or social care setting, working with people at any stage of dementia. They can also be used to inform the content of curricula and training courses.

5.4.1 The future of UK nursing skill mix

The Care Quality Commission (CQC) strategy for the years 2010 to 2015 in the UK (2010, p.19) includes, unexpectedly, very little about nursing skill mix. Only a definition of suitability of staffing is included in the essential standards, "what providers do to make sure that they have suitably qualified, skilled and knowledgeable staff who can competently support people".

The absence of reference to skill mix in the most recent CQC publication (2010) was unexpected because the legislation setting up the CQC promised care by properly qualified staff, enough staff to keep them safe, and staff that are well managed and have the chance to develop and improve their skills. According to the CQC "the managers at large hospitals encourage all their staff to keep up to date with developments in their field and to find out all the information they need to. Staff members have an individual 12-month training plan and there are enough staff at the hospital to make sure that they can attend training courses. The hospital has also introduced a mentoring programme where junior staff can learn from more senior staff to develop their skills and do their job better. People who use the hospital's services and their families say they are happy with the standard of care and support they receive."

This CQC statement (2010) has many loopholes. First, 'larger' hospitals are not defined. Second, it excludes small hospitals. Third, it does not make clear whether staff training plans and mentoring are delivered in the larger hospitals only. Fourth, the statement that people are happy with standards received is not supported by their own most recent survey.

The CQC survey of inpatients (2011) found that fewer rated the overall care as excellent compared to 2009, down from 44 per cent to 43 per cent in 2009 (but up from 38% in 2002). There was no significant change in how they rated

enough nurses being on duty to care for them compared to 2009 with 60 per cent saying there was enough, 30 per cent said there was sometimes enough and 10 per cent said there was rarely or ever enough. Seventy-four per cent trusted the nurses treating them (3% did not trust the nurses and 22% trusted the nurses sometimes, the same as in 2009). Only 8 per cent rated how nurses and doctors worked together as poor (2%) or fair (6%) while 92 per cent rated it good, very good or excellent. Over 66,000 participated in the survey, 12 per cent of all inpatients, with 50 per cent responding to the survey.

If the health quality regulator CQC has very little to say about where skill mix is going over the next five years, the NHS, the DoH and the UK Secretary of State for Health have plenty to say. A major report on the NHS healthcare workforce, in December 2010, started the consultation process (DoH 2010a). In the very first paragraph of the Foreword, Andrew Lansley, Secretary of State for Health, put skill mix as the number one issue in these terms, "Their skills, commitment, professionalism and dedication are key to improving the health outcomes of the nation. We must also ensure that healthcare providers have the right number of staff with the right skills to provide excellent standards of care both now – and for the future (DoH 2010a, p.3).

For a consultation document there is a refreshingly complete set of proposals to improve workforce planning and standards and a straightforward list of questions to guide response to the areas still in issue. The vision set out in the white paper *Equity and Excellence: Liberating the NHS* (DoH 2010b) and the framework provided by *The Operating Framework for the NHS in England 2011/*12 (DoH 2010c) can, the consultation document tells us, only be achieved if healthcare providers employ staff with the skill mix appropriate to deliver a high quality service to patients in every circumstance. That blend of skills will change repeatedly to satisfy the evolving healthcare needs of local communities. The consultation document agrees with *Equity and Excellence* that it is time to give employers greater responsibility for planning and developing the healthcare workforce. Local 'skills networks' of employers will take on many of the workforce functions currently discharged by Strategic Health Authorities, while the quality of education and training will remain under the stewardship of the

healthcare professions, working in partnership with universities, colleges and other education and training providers.

The current system of UK healthcare workforce planning has grown in a piecemeal way. There is an opportunity now, they say, to fundamentally reshape it. About 1.4 million people in over 300 different roles make up the NHS workforce. More than half of them are healthcare professionals, including doctors, nurses, midwives, healthcare scientists, pharmacists and a wide range of Allied Health Professionals. Currently Strategic Health Authorities (SHAs, soon to be abolished according to the DoH Business Plan 2011-2015, DoH, 2010d) determine where to invest the £5bn central budget for education and training. Most of the money is spent on developing the skills of the next generation of professionals, including clinical placements and other work-based learning through healthcare providers. The Department of Health, they promise, will continue to ensure this core investment is available to make the sector more self-sufficient and less reliant on international recruitment in light of persistent shortages of particular skills, including insufficient specialist skills in theatre, renal and intensive care nurses, which causes over-reliance on expensive agency staff and recruitment overseas. The agency bill for healthcare staff is more than £1.9bn.

The Government intends to reduce significantly the level of central funding for Skills for Health. It supports moves towards a business model in which employers decide how much they need to invest in the services that Skills for Health can provide. The Government supports a much closer working partnership between Skills for Health and Skills for Care. The document also asks for views on the workforce planning and management functions that would be undertaken by the local provider networks, including holding and allocating funding for education and training and taking on the deanery functions. The skills networks would include GPs in their role as providers of healthcare, and work in partnership with representatives of local authorities as providers of social care and commissioners of public health, and education providers. The professions and medical Royal Colleges have an important role to play in devising and delivering education in their specialties. Clinicians should be

involved in the skills networks. The new framework provides an opportunity for the Academy of Medical Royal Colleges to give clinical and professional leadership in working across specialty boundaries. Similar support may be forthcoming from the professional bodies and representatives of other healthcare professions and from the education sector.

Relying solely on market levers to secure sufficient investment in healthcare skills, the consultation document (DoH 2010a) suggests, is an unacceptable risk. It would also be unfair if some healthcare providers bore the costs of providing skills to the local labour market while others did not. Current funding of training and development comes from top-slicing the NHS budget. Over time the Government intends to move to a levy on providers to raise the money needed to train the next generation of healthcare professionals. However, it would not be appropriate, they say, to apply a national levy to fund local investment to develop the skills of the existing healthcare workforce. Health Education England (HEE) will take a strategic overview of the funding priorities and allocate money to different areas as appropriate. It needs an effective strategic relationship with the funding bodies for higher education, taking account of changes to the funding regime following Lord Browne's Review. Subject to Parliamentary approval, Health Education England will be established in shadow form in 2011 and as a special health authority to go live in April 2012.

Healthcare provider skills networks will become legally established and other transitional arrangements will be organised. The vision set out in the White Paper *Equity and Excellence* can only be achieved if healthcare providers employ staff with the skill mix appropriate to deliver a high quality service to patients in every circumstance. If this is so, and it is, it is unexpected that the white paper did not say this. *The blend of skills* that is appropriate will change repeatedly as clinicians strive to use the most effective and up-to-date techniques and technologies to satisfy the evolving healthcare needs of local communities. Successful patient care depends on the whole healthcare workforce working effectively together, in conjunction with social care and public health staff where appropriate. Through their creativity and commitment, the people who work in health and social care will realise improved healthcare outcomes for patients and

local communities, the consultation document promises. There is strong evidence that staff who are empowered, engaged and well supported provide better patient care (DoH 2010a). Employers must create an environment where talent flourishes and where everyone is able to realise their potential.

Over the next few years, the forecast is that the wider health economy and the public sector generally face significant challenges, an ageing and growing population, new technology and higher public expectations and continuing growth in demand. Through developing their Quality, Innovation, Productivity and Prevention (QIPP) plans, the NHS has been planning for some time for a tighter financial environment, with the ambition of achieving efficiency savings of up to £20 billion for reinvestment in front-line care. Healthcare staff take account of the majority of NHS spending, so having the right mix of skills and empowered professionals will be essential in meeting the challenges forecast. There are in practice no market mechanisms capable of delivering the prospective supply of skills for healthcare. Although there may be signals covering need for skills, they are often very short-term in relation to the supply response required through training. There is therefore an unacceptable risk of undersupply of healthcare professionals, which would be unsafe, or oversupply, which would be wasteful and demoralising. Nor can we continue, the consultation document says, to expect top-down workforce planning to respond to the bottom-up changes in patterns of service that will be required by GP consortia. In future the DoH will have progressively less direct involvement in planning and development of the healthcare workforce, except for the public health services.

The key lesson from recent NHS history and international experience is that the effective alignment of service development with financial and workforce planning enables high quality care with greater productivity. Critical to this is excellent education and training that is integrally linked into scientific and technological advances and enables everyone in the healthcare team to acquire capabilities and skills to provide new models of personalised care. Healthcare employers have an interest in securing the supply of skills they need. Insofar as they are increasingly responsible for determining and funding their needs, they

will have an interest in avoiding either chronic shortages or over-supply. So, it is time to give employers greater responsibility for planning and developing the healthcare workforce, alongside greater professional ownership of education and training quality standards and content. The new framework will take account of how workforce needs are addressed across the wider healthcare sector, in the delivery of public health services and to reflect the common interests with social care where there are shared care pathways and cross-boundary flows of staff and skills. It will also recognise that much health education is developed with and delivered by universities and other education providers. Partnerships with the public and patients, staff, students, the professions, commissioners of care, regulators and academic partners are all required to achieve equity and excellence.

The Government has announced a two year pay freeze with effect from April 2011 for those earning more than £21,000 (DoH 2010c). This will help ease pressure on the pay bill entering a challenging financial period. Many staff are concerned about their security of employment, particularly over the next two years, while the NHS implement the QIPP reforms to release savings. Individual NHS organisations should, the consultation document recommends, be working in partnership with local trade unions and staff to redesign services so that they are delivered efficiently and ensure the quality and safety of care. This should include discussions to retain, retrain and redeploy staff wherever possible so as to avoid unnecessary loss of skills. It will, they add, be important that unnecessary costs in respect of staffing changes are avoided. The consultation document included a future model of the new structure of workforce planning in the NHS. The inclusion of skills for health in the model is reassuring. Inclusion of health profession regulators with colleges and faculties in the setting of standards of professional practice and education and training will, if agreed and implemented after the consultation process, cause the problems.

Equity and excellence, like the CQC report, is silent on skill mix and the nearest the report comes to a commitment on skill mix is the promise to give employers greater autonomy and accountability for planning “and developing the workforce, alongside greater professional ownership of the quality of education

and training" (DoH 2010b, p.40). Skill mix and workforce planning is a significantly lower priority for the Government and CQC than it is with the Department of Health and the NHS based on the evidence of these recent reports.

Hollinghurst *et al.* (2006, p.530) found that employing a nurse practitioner in UK NHS primary care is likely to cost much the same as employing a salaried GP according to currently available data. They found "considerable variability of qualifications and experience of nurse practitioners, which suggests that skill-mix decisions should depend on the full range of roles and responsibilities rather than cost." De Geest (2008) reported outcomes research that shows that nurse practitioners show clinical outcomes similar to or better than those of physicians. Further examples demonstrate favourable outcomes in view of the six Ds of outcome research; death, disease, disability, discomfort, dissatisfaction and dollars, for models of care in which Advanced Practice Nurses play a prominent role. Advanced Practice Nurses such as Nurse Practitioners show potential to contribute favourably to guaranteeing optimal health care. Advanced Practice Nurses will wield the greatest influence on health care by focusing on the most pressing health problems in society, especially the care of the chronically ill.

The central role nurses play in patient safety (Savitz *et al.* 2005) suggests a need for consensus on a set of measures that will enable us to examine the impact of staffing changes on the quality of care received. To support institutionalization of this set, research examining the sensitivity of available, evidence-based indicators (*outcomes*) sensitive to nurse staffing is needed. Such indicators could be used to evaluate the outcomes of nursing practice when changes are made in care *processes* or the delivery of nursing care.

5.5 Policy on nursing skill mix in the USA and New Zealand

Few health services policy makers have made the critical link between the number of human resources, the characteristics of the work environment and the impact on patients, nurses, and the system as a whole (Dunfield 2008). Overall, an understanding of the relationships among nurse staffing and organizational climate to patient safety and health outcomes is beginning to emerge in the literature in particular from the USA and New Zealand and recommendations

where more research is needed is highlighted. Policy initiatives in the USA and New Zealand are summarized below.

For the USA, the Commonwealth Steering Committee for Nursing and Midwifery in 2002 commissioned the Lillian Carter Centre for International Nursing at Emory University, Atlanta, to review evidence supportive of the nursing and midwifery contribution to improve access to cost-effective quality healthcare and cost containment. This study also explored the value of nurse/doctor substitution in healthcare work. They concluded that there was much evidence to suggest that RN staffing levels within hospitals made a difference to quality patient outcomes. In addition, findings from several hospital-based studies have also indicated a relationship between increased registered nursing hours and greater patient satisfaction, better pain management and lower rates of morbidity from falls and urinary tract infections (American Hospitals Association 2002). However, the drivers such as cost effectiveness, professional development of the nursing profession, quality patient improvement and pragmatic management may not be shared in a collaborative fashion by both doctors and nurses in Ireland due to the historical traditional view of the nurse's role as an assistant to the doctor rather than an independent professional. Policy makers and managers in the health services need to be knowledgeable of the rather fragmented evidence base for doctor-nurse substitution and should consider nursing skill mix changes, only when they are clear about the purpose, evidence base, acceptable risks, accountability and quality assurance of all professional involved. Doctor-nurse substitution is not necessarily cost effective nor is it unfailingly a gain in nurse professionalism or in quality of care but only will be of significance when doctors and nurses are clear about their purpose, evidence base, acceptable risks, accountability and quality assurance of care. Many countries have sought to shift the provision of doctor’s work to nurses in order to reduce the demand for doctors and improve healthcare efficiency. The expectation is that nurses working as substitutes can provide as high quality care as doctors at lower cost. However according to Laurent *et al.* (2004), nurses tend to provide more health advice and achieve higher levels of patient satisfaction compared with doctors. Even though utilising nurses in this way may save salary

costs, nurses may order more tests and use other services which may decrease the cost savings of using nurses instead of doctors.

The US Agency for Healthcare Research and Quality (AHRQ) (2003), supported these findings which published a review that explored whether the working environment of healthcare personnel contributed to the incidence of adverse patient events, which were defined as "injuries caused by healthcare rather than by underlying diseases. The study concluded there was sufficient strength of evidence to link depleted levels of RN staffing with patient adverse events such as decubitus ulcers (pressure sores) and patient falls. It reported consistency in studies conducted at both unit and hospital level that found lower RN–patient staffing ratios associated with higher rates of non-fatal adverse events. It also noted that the findings from nursing homes were similar. However, the data regarding mortality and RN–patient ratios were less convincing and no reviewed study attempted to differentiate between avoidable and non-avoidable deaths. In conclusion, the AHRQ study stated that there was "sufficient evidence to conclude that higher nursing workload is associated with higher rates of non-fatal adverse outcomes in both inpatient and nursing home settings" (AHRQ 2003, p. 124) but the evidence was not consistent in linking higher RN workloads to higher rates of patient mortality. The challenge for nurses in Ireland is the perceived current high ratio of nurses per patients as per other European and American countries which inhibits the nursing profession in calling for their ratio of RNs further as compared to other countries.

The majority of studies examining quality nursing outcomes have concentrated on quality nursing outcomes related to the observable results of nursing interventions only. A number of studies have reduced nursing to a series of activities that can be defined, observed and counted. Therefore, a certain standard of nursing care can be reached if a defined frequency of specified nursing activity is given to patients in different dependency groups. Whilst this type of research addresses notions of quantity, it says little about the quality of nursing care given. So, evidence does not yet indicate the minimum or ideal skill mix staffing but there is consistent support for nursing skill mix models to be

based on a standardised set of criteria that reflects the needs of current patient populations and the nursing personnel available in the healthcare setting.

The (US) Agency for Healthcare and Quality (Swanton 2004) found significant associations between lower levels of nurse staffing and higher rates of pneumonia, upper gastrointestinal bleeding, shock/cardiac arrest, urinary tract infection, and failure to rescue and noted other studies that found higher rates of lung collapse, falls, pressure ulcers, thrombosis after major surgery, pulmonary compromise after surgery, longer hospital stays, and 30-day mortality. The Agency quoted one study "The implications of doing nothing to improve nurse staffing in low staffed hospitals are that a large number of patients will suffer avoidable adverse outcomes and patients will continue to incur higher costs than necessary." Multivariate results imply, according to Aiken *et al.* (2002) that nurse reports of low quality care were three times as likely in hospitals with low staffing and support for nurses as in hospitals with high staffing and support.

If adverse events are significantly associated with lower levels of nurse staffing one would expect that adverse events would reduce with higher levels of nurse staffing or richer skill levels. Lankshear *et al.* (2005) strongly suggest that higher nurse staffing and richer skill mix (especially of RNs) are associated with improved patient outcomes, although the effect size cannot be estimated reliably. The association appears to show diminishing marginal returns. This finding might be expected – one would expect that more, and more skilled, nurses would result in better patient outcomes and that the cost of every additional nurse or every additional skill might eventually cost as much as the improved patient outcome. The relationship between quality of care and the cost of the nursing workforce and the relationship between the nursing workforce and patient outcomes in the acute sector are two of the most important relationships to policymakers because the cost of nursing is the largest slice of the budget pie and patient outcomes are what healthcare is all about. It is therefore not surprising, in Irish healthcare, that all the attention is on nursing numbers and relatively little on nursing skill mix. This study seeks to redress this balance.

The New Zealand health service experimented in reducing healthcare costs by reducing nursing numbers and increasing skill levels (McCloskey 2005). The nursing workforce analysis showed decreases in the number of nurse WTEs and their associated hours worked, and an increase in skill mix. The outcomes analysis indicated a progressive and substantial increase in many of the adverse clinical outcomes rates after reengineering's implementation, a simultaneous decrease in ALOS, and decreasing or stable mortality rates. The final analysis examined whether changes in adverse outcome rates over time could be explained by changes in nursing workforce characteristics. There were statistically significant relationships between decreases in the size of the hospital nursing workforce, the number of nursing hours worked, and the increase in skill mix and several adverse outcome rates.

Changes in the nursing workforce variables explained approximately 50 per cent to 80 per cent of the variance in CNS complications, decubitus ulcers, and sepsis rates among medical discharges and 50 per cent to 96 per cent of the variance in CNS complications, decubitus ulcers, DVT/PE, sepsis, UTI, physiological and metabolic derangement, pulmonary failure, and wound infections rates among surgical discharges. Statistically significant in the context of the New Zealand study means that the effect sizes of the changes were not explained or caused by confounding factors in the internal or external New Zealand healthcare environment other than nurse numbers and nursing skill levels. Kendall-Gallagher and Blegen (2008) reported similar findings in the US: The unit proportion of certified staff RNs was inversely related to rate of falls, and total hours of nursing care was positively related to medication administration errors. The mean number of years of experience of RNs in the unit was inversely related to frequency of urinary tract infections; however, the small sample size requires that caution be exercised when interpreting results. Kane *et al.* (2007), investigating for the US Agency for Healthcare Research and Quality, found increased nursing staffing in hospitals was associated with lower hospital-related mortality, failure to rescue, and other patient outcomes, but the association is not necessarily causal. The effect size varied with the nurse staffing measure, the reduction in relative risk was greater and more consistent across the studies, corresponding to an increased RN to patient ratio but not hours and skill mix.

Estimates of the size of the nursing effect must be tempered by provider characteristics including hospital commitment to high quality care not considered in most of the studies. Greater nurse staffing was associated with better outcomes in intensive care units and in surgical patients.

5.6 Conclusion

Irish documentary evidence reviewed in this chapter focuses on changes in the professionalisation of nursing roles, the creation of nursing teams and the implications for nursing skill mix. Other issues of relevance are the potential challenges arising from substitution of qualified and specialist nurses and midwives, particularly in the light of the employment of students and health care assistants. There are also implications for workforce planning and the need for systematic approaches for integrating nursing skill mix into service planning requirements to meet health care strategic objectives and to avoid nurse role confusion, particularly with regards to accountability and governance.

The review of documentary evidence from the UK, USA and New Zealand provide some valuable insights into the various approaches to skill mix determination in those countries, particularly in the context of a changing healthcare environment and the drive for value for money and cost containment. The UK has developed a number of methods for reviewing and determining skill mix, including benchmarking, consultation and workload measurement as an approach to establishing staffing levels and skill mix across general hospitals. The review of documentary evidence from the UK found that benchmarking has been a valuable method determining skill mix as part of an overall approach to managing staffing levels and health care delivery outcomes in the light of challenges facing nursing resources. The provision of benchmarked data, dating back to 2002, has been an integral part of the commissioning and purchasing process that underpins UK healthcare. Nursing skill mix has also been relevant to the implementation of major policy developments, including the implementation of *Agenda for Change*, and the resulting *Knowledge and Skills Framework* implemented in the NHS. Further policy initiatives, including *The Way Forward* have helped to foster a learning and innovation culture, and the specialist skills required to meet changing healthcare needs.

Despite these developments the review of documentary evidence from the UK shows that there has been limited reference to nursing skill mix, in relation to staffing levels and skills, in the development of core healthcare regulations and standards drawn up by the Care Quality Commission. This is in contrast to more recent developments in NHS workforce planning policy, where nursing skill mix is prioritised in determining staffing and skill levels as a basis for excellence in care. In these documents skill mix is not seen as fixed, but rather responsive to change. As healthcare needs change, skill mix will be determined by local employers through a market-based approach and provider skills networks. The most recent reforms also mean that the DoH will have a less important role in planning and development of the healthcare workforce. The move to a more localised approach will mean that staffing levels and skill mix are determined locally; this is viewed as a more effective way to increase productivity and enhance quality of care.

Documentary evidence of skill mix from the USA and New Zealand provides some interesting developments in understanding the relationship between staffing levels, patient safety, health outcomes and organisational development. Some of these initiatives have been driven by a need for cost-effectiveness, cost containment and quality healthcare. For example, USA evidence shows that staffing levels of RNs has a direct impact on quality patient outcomes, which resulted from better pain management and lower levels of morbidity from falls, decubitus ulcers and urinary tract infections. In this context nurse-doctor substitution was not necessarily cost-effective. In New Zealand reductions in nursing numbers have been closely connected to an increase in skill mix. It is of interest that there is evidence to show a significant relationship between a reduced nursing workforce in a hospital, the number of nursing hours worked and an increase in skill mix, with adverse healthcare outcomes. In this context nurse numbers and nursing skill levels were directly related to poorer health outcomes. This documentary evidence shows the importance of developing tools to measure and evaluate changes in staffing levels and skill mix on the quality of care received.

The UK, USA and New Zealand are significantly in advance of Ireland in the use, development and future plans for nursing skill mix. They provide some useful learning for the development of consultation processes in workforce planning and the importance of bringing nursing skill mix into the centre of policy. This has also shown the critical importance of monitoring changes in skill mix, particularly because it has been shown that a change in skill mix, resulting from reduced numbers of RNs, does not necessarily lead to cost effectiveness and quality patient outcomes. In Ireland a policy framework and national model on nursing skill mix is needed, but it needs to take account of how skill mix can enhance patient outcomes and the central importance of key nursing skills in any skill mix model if quality of care is to be enhanced.

The next chapter reports on the findings from the second phase of the study which comprised semi-structured interviews with key informants.

Chapter 6

Phase 2 Findings of semi-structured interviews

> It is so essential when determining nursing skill mix to have the right person in the right place at the right time.
> D4 (Assistant Director of Nursing)

6.1 Introduction

The chapter presents the following elements of the findings:

- Qualitative findings from interviews
- Quantitative findings from interviews

6.2 Qualitative findings

Qualitative findings were gained from interviews with 54 key participants who work in policy and management roles directly or indirectly with Band 1 acute general hospitals. Participants in the study included policymakers working with national nursing organisations/agencies and Directors of Nursing and their management and clinical teams, supported by directors of nursing working within the planning and development units. The aim of the study was to examine how nursing managers and policy makers understand nursing skill mix and how it is determined in acute hospitals in Ireland.

The themes identified from the data were:

1. "All kinds of everything": The diversity of influences on nursing skill mix.
2. Ambiguities of contemporary nursing roles
3. Inconsistencies in nursing skill mix approaches

In addition, quantitative results for several closed questions which were asked in the interviews are presented in section 6.4 below.

6.2.1 Theme 1: "All kinds of everything": The diversity of influences on nursing skill mix.

This theme describes the various diverse influences that impact on the determination of nursing skill mix. Under this theme participants described their understanding of skill mix terminology, their perspectives on the historical development of nursing in Ireland, impact of trade unions, nursing resources implication for skill mix and working with doctors.

6.2.2 Imprecise meanings of nursing skill mix

There was greater clarity of understanding around the term "nurse staffing levels", compared to nursing skill mix. Participants said their understanding of the term nurse staffing levels in Ireland is based on two themes which relate to (1) numbers of nurses employed, and (2) grade mix and experience of nurses. One policymaker emphasised the need to "hold on to" current staffing levels:

> I suppose if I have my trade union hat on here I would see staffing levels means current staffing levels, the amount of nursing WTE grades, and we hold on to those numbers. **A8 (PM)**

The term nursing skill mix was interpreted in a wide variety of ways amongst the majority of participants. Skill mix was viewed by one CNM2 to be a mechanism that should enhance nursing roles and to allow the nurse assistant to: "develop and not to replace the nurse in any way" (F4, CNM). Policy makers, as could be expected, given their distance from the clinical environment, expressed a wide variety of understandings when asked about the term nursing skill mix. They described nursing skill mix as a combination of both RNs (qualified nurses) and HCAs. In other words, the focus was within direct nursing care delivery as outlined by one policy maker who stated that:

> Overall I would say that it's the number and mix of staff including nursing and healthcare assistant staff within a nursing team as they have the skills and knowledge to provide a quality and safe patient-centred care. **A2 (PM)**

Directors of Nursing Planning and Development Units predominately interpreted the term nursing skill mix in a broad way, as a combination of registered (qualified) nurses supported by all the members of the multidisciplinary team, not solely HCAs. Nursing skill mix was said to be one issue influenced by many others who are not in the nursing team as described by a CNM2:

> The pure nursing team and any other profession or otherwise that contributes or has an impact on nursing is associated with the nursing skill mix. **F3 (CNM)**

The understanding of nursing skill mix by Clinical Nurse Managers relates to a mixture of both junior and senior qualified nurses employed on a ward. This view interprets skill mix in a narrow manner, related to nurses only:

> By the term nursing skill mix, now I do not know that I would be using the right phraseology, but to me it really is the range of junior and senior staff that we have on the ward and, for want of a better word, senior staff and junior staff ratio that we have on each shift. **F5 (CNM)**

However, the organisational context in which nursing care is delivered and by whom has implications for patient outcomes. Therefore identification of the specific nursing skill mix in the context of grade and experience may yield better patient outcomes.

There were many examples of lack of consistency amongst participants in their understanding of the term nursing skill mix. Some of the participants view nursing skill mix in qualitative terms and referred to the blend of competencies amongst nursing staff. This is very different to a quantitative measure which refers to the number of staff. Many participants referred to grade mix rather than nurse staffing levels, or nurse skill mix. One policy maker stated that:

> I think most people seem to have quite different interpretations of what the term nurse staffing levels mean, but what they are actually talking about is the term grade mix, which means the very same thing. **A3 (PM)**

6.2.3 "We always did it this way, why change?: Historical perspectives on nursing in Ireland

Nursing practice in acute general hospitals in Ireland, according to most participants in this study, is strongly influenced by nursing history and the subsequent development of the profession. In general, historical factors were seen as a key influence in determining nursing skill mix mainly due to the minimal use of robust methods to determine nursing service requirements and minimal reviews (if any) of existing staffing levels. This is because of the diverse nursing arrangements which existed before and after the 1998 Commission on Nursing Report to determine nursing skill mix. These include the development of public and private hospitals, a common pool from which nurses are recruited, a common regulatory framework from An Bord Altranais, a common employer (the HSE), a separate and distinctive ethos promulgated by religious orders involved in hospital provision, professional modernisation following trends created in new public management, and industrial relations agreements based on national social agreements. One Director of Nursing stated that:

> As a director of nursing responsible for the largest number of staff employed in the hospital, you would imagine that I would be knowledgeable about how to determine nursing skill mix effectively. But truthfully I am not and I put this down to the many changes that have happened pre and post the Commission on Nursing Report such as the influence the religious orders had in dictating nursing levels, the influence nursing unions play on negotiating staffing levels and the various measures private hospitals use to determine nursing skill mix. **C5 (DON)**

Two other important historical contributory factors according to policy makers and Clinical Nurse Manger 2 to determining nursing skill mix were (1) learning from international acute healthcare developments that distanced decisions from the Department of Health and Children and (2) changes in how the Department of Health and Children manages and oversees acute healthcare in Ireland, particularly in the creation of bodies which distanced decisions from the Department. One Clinical Nurse Manager outlined that:

> …the Department of Health and Children distance themselves from the reality of nursing skill mix even though there is international evidence relating to best practice to determine skill mix in acute hospitals. I suppose politically this suits them. **F4 (CNM)**

Such uncertainty raises critical issues about the different approaches to configure nursing skill mix in Ireland and the value of international evidence. In this context it is perhaps time to reconsider how nursing skill mix is determined and the implications for policymakers and nurse managers and their staff collectively. It is also necessary to remain cautious about existing evidence of practices implemented in other countries in determining optimum nursing skill mix for acute general hospitals in the future.

Demonstrating the accountability of the nursing profession and their decisions for planning patient care to healthcare providers is fundamental. According to participants a better evidence base is necessary to persuade providers to place greater emphasis on ensuring quality standards of care when making decisions about services which should include methods of achieving nursing skill mix. Planning nursing care was reported by the participants to have considerably less impact on determining nursing skill mix than the influences more frequently cited. Some indicated that issues such as patient acuity, finance, quality and ward layout are separated from planning nursing care. When the data are analysed by category of participant, CNM2s were the only group to report that planning nursing care was an important influence in determining nursing skill mix requirements within a ward context. Planning patient nursing care, according to these views, included patient complexity, patient dependency and:

> The holistic needs of the patients are a pivotal influence on how we determine nursing skill mix needs on my ward. **G1 (CNM)**

Participants did not directly raise custom and practice as being influential in determining nursing skill mix requirements. Some participants spoke of having a culture within which people do not like change. According to one policymaker:

> The whole custom and practice within the nursing profession is stifling…Custom and practice I think is one of the bigger challenges. **A9 (PM)**

Custom and practice can be informed where standard operating procedures, written policies and official guidelines govern healthcare activity. There is some confusion among health care managers within that context about what a nurse can or cannot do. Much of what nurses may think of a nurse being "allowed" to do may be just "custom and practice". In fact, there are very few activities that are specifically restricted. In the past, a more prescriptive and task orientated approach was often used to differentiate what nurses could and could not do. Some participants in this study state that nursing roles are influenced by what is termed "custom and practice in the delivery of nursing care" which has its origins in both education and practice. Perceptions of participants regarding the significance of education and training of nurses for enhancing role clarity of nurses working in general hospitals should be considered in the context of incorporating issues relating to role clarity of nursing roles in the initial nurse preparation of education training. According to one Assistant Director of Nursing this would mean that:

> Early in an education programme students would be introduced to specific nursing activities, that clearly identify their value rather than be taught within the clinical environment by qualified nursing staff activities that are performed with little value but based on custom ad practice…that is…we have always did this way. **E4 (ADON)**

The study also found that participants perceived a lack of clarity between the role of staff nurses and senior staff nurses which contributes to custom and practice in the delivery of nursing care. One Director of Nursing stated that:

> This is due to the traditional way nurses were trained in the past in that they learnt the art of custom and practice during their training…we always did it this way, why change? **A2 (DON)**

This view is further supported in this study where two participant groups stated that staff education and their competencies influence nursing skill mix. These findings suggest that nurses are more receptive to caring for patients using various methods of nursing skill mix. The education nurses now receive may have contributed to changed attitudes to skill mix, particularly among more recently qualified nurses. Obviously, training and competencies of nursing staff are important facets in the skill mix requirements for acute general hospitals. This view was shared by a Clinical Nurse Manager who stated that:

> For me, influences would be around the competencies of the nursing staff you have working on a ward. **F3 (CNM)**

But one Assistant Director of Nursing differentiated experienced and inexperienced nurses in relation to:

> If you have a lot of newly qualified staff nurses on duty, they may not be as competent as experienced nurses, for example, we find that a lot of the first year newly qualified [nurses] can't do drugs as per policy for six months and can't do IV drugs. However, education and professional development of staff is a crucial factor as well. **D2 (ADON)**

Competencies, staff education and professional development are crucial elements that provide nursing staff with the tools to deliver safe and effective patient care. According to a CNM2:

> In order for all staff working in medical wards to achieve safe patient care it is crucial that staff are educated competently to ensure the provision of quality patient care. **F2 (CNM)**

Therefore current skill mix focus is both restrictive and static, as it fails to account for nursing members' skills and their effective utilisation. In order to use nursing skill mix most effectively, band 1 hospitals must also consider the institutional environments that frame nursing educational preparation, practice

and the system of professional development, that can be utilised at both hospital and system levels to enhance how nursing skill mix is determined.

6.2.4 Antagonism towards skills mix development: Industrial relationships

In the main, participants did not view trade union involvement as a key influence in relation to determining nursing skill mix. However, policymakers considered trade unions to have a key influencing factor in determining nursing skill mix. One policymaker stated that:

> Well, clearly there are industrial relations difficulties with particular significant gaps between the attitudes for the position of the employers nationally and the main nursing organisations. I would even go as far as saying that there is a view of hostility among the nursing profession to the development of skill mix. Maybe I shouldn't say it, but if skill mix is being used principally as an industrial relations mechanism to bargain rather than establishing who and what grade is suited to undertake a role, then it does make you cynical. **A9 (PM)**

Policy makers say trade unions are critical in influencing skill mix requirements both nationally and locally as illustrated by a policymaker who said:

> Let's be honest…if hospitals locally need extra nursing staff, this will probably be negotiated on behalf of the nursing staff through their nursing unions rather than senior nursing management. **A6 (PM)**

This is because of the major influence nursing unions have, in relation to their level of authority. One policy maker outlined that:

> …fear by policymakers nationally as compared to senior nursing managers locally. **A3 (PM)**

These perceptions illustrated are at odds with the perception of other participants. This particular finding may be a reflection of the centralised power of the unions at national level in Ireland in the context of how nursing skill mix is determined.

Policy makers also endorsed the use of a third party intervention approach to facilitate the determination of nursing skill mix requirements for an acute hospital. This type of intervention was viewed as a positive approach by policymakers to determining nursing skill mix. Such intervention in an Irish context refers to formal industrial relations processes which can be brought to bear on a situation when skill mix issues cannot be resolved at a local level. The participants (in this study) were clear that the third party intervention related to both skill mix and staffing levels. Third party intervention was considered to be an unbiased approach and usually involved personnel who had some experience of establishing nursing skill mix needs. One policymaker said the third party process was successful in preventing industrial unrest:

> We often employ a third party intervention…that is someone who has expertise in nursing and is neutral to either party where unrest exists. **A2 (PM)**

A Director of Nursing agreed that third party intervention had positive outcome with increased staffing levels in her hospital:

> We have engaged in third party intervention here…to increase our staffing levels and this has been positive for us in achieving same. **D1 (DON)**

Third party intervention was usually applied when local discussion regarding the increase in staffing levels or skill mix failed. Participants identify this intervention as a viable mechanism for determining both skill mix and staffing levels. However, this approach can undermine and indeed prevent the use and growth of scientific workload analyses to determine nursing skill mix in acute hospitals. Determination of skill mix can create industrial disputes. As one policy maker said:

> The only time nurses really get involved is when there is the threat of industrial action. **A6 (PM)**

Moreover, in the interest of achieving a settlement an extra allocation of nurses is often made, denying their allocation to a location where an empirical skill mix system would prove they are really needed.

6.2.5 "There are never enough resources" The need for adequate financial resources

Participants referred to financial resources, human resources and skill-set resources. The success or failure of implementing skill mix planning within a general hospital will depend on achieving planned outcomes such as cost-effectiveness. To make informed choices in respect of delegation of duties, clinical care and ward/unit management nurses need the support of robust measurement systems to ensure effective outcomes. This study found that the amount of financial resources available was critical in determining nursing skill mix. There was wide agreement on this, except from Clinical Nurse Managers. A typical view was that the allocation of the budget from the Department of Health and Children, received on a yearly basis, determined the amount of staff you can employ, which in turn determined your nursing skill mix. One participant stated that:

> The challenge is that there are never enough financial resources available to match your needs…particularly in reconfigurations of your skill mix if it's going to cost extra resources. **A2 (DON)**

CNM2s did not express an opinion regarding the relationship between financial resources and the determination of nursing skill mix. Why CNM2s do not mention the relationship between skill mix and financial resources warrants further exploration. It could be inferred that as the Clinical Nurse Manager is not a budget-holder, the relationship between finance and skill mix may be removed from their everyday experience. The study suggested that some CNM2s are skilled at getting staff resources while others feel they are unable to influence the internal allocation of staff. One CNM2 stated that:

> …it is impossible to make a case for improving your skill mix on my ward even if its cost neutral as increasing HCAs and decreasing

> registered nursing numbers may mean increasing your whole time equivalents on the ward which hospital management will not approve. **F1 (CNM)**

It was found in this study that CNM2s viewed the allocation of staff as being the responsibility of senior managers, notably the Director of Nursing, rather than the responsibility of ward sisters to manage skill mix.

> We have absolutely no input on the nursing allocation to my ward, it is ultimately the Director of Nursing who decides…this really undermines my role in relation to determining nursing skill mix. **G2 (CNM)**

CNM2s were not concerned by the need to manage their resources effectively because the prospect of them and their ward or specialty benefiting from a budget increase are more remote. One CNM2s stated that

> …we will never get an increase in resources to increase our skill mix so why bother trying to influence this issue. **F3 (CNM)**

In the context of this study some participants perceived current nursing shortages as a resource impediment in the Republic of Ireland to determining how nursing skill mix is defined, understood and challenged. Nursing skill mix requirements are being driven by the availability of nurses in Ireland rather than the expertise and nursing skill mix that is required. Nursing perceived shortages are defining the actual workforce, and skills we require for determining nursing skill mix in general hospitals in Ireland:

> …for example traditionally only nurses worked in theatres … now because of the nursing shortages nurses are employing HCAs in some hospitals in operating theatres to carry out roles traditional performed by RNs…this is only one example of many! **E4 (ADON)**

The perception of the effects of nursing shortages on skill mix in acute general hospitals is more multi-faceted than this. If we look at a nursing equilibrium or

surplus is the need for a nursing skill mix negated because the staff resources are sufficient to cover every eventuality? Conversely, does this not imply that an effective nursing skill mix is more critical if nurses are in short supply? Paradoxically, that short supply might include nurses with critical skills and qualifications that would make an effective skill mix impossible. Consultants can generate a demand to redress "shortages" that do not exist in the current caseload but which, if the demand is successful, would permit them to treat and profit from more private patients using publicly funded resources. This does not apply to the majority of consultants; indeed there are those who only treat public patients but it applies to some consultants.

6.2.6 "Influence beyond their numbers" - Hospital consultants and nursing resources

Hospital consultants are and have a major influence on nurse skill mix requirements. The fact that hospital care remains consultant-led has implications for nursing roles and nurse autonomy in a healthcare setting. Consultant activity was found to impact directly on nursing roles and skill mix. Policy makers considered the increase in consultants' ward rounds and Clinical Nurse Managers to be a major influence in determining nursing skill mix needs for wards in acute hospitals. One CNM2 found that the frequency of medical consultants coming to the ward impacted enormously of the staffing levels of nursing staff. She said:

> Your ward significantly affects the amount of nursing care required by patients, which significantly affects the need to increase your nursing staffing requirements. **G5 (CNM)**

The view that a larger number of nurses are required to facilitate the increased levels of consultant activity arises in two ways. First, more consultants can increase hospital activity, therefore, requiring more nurses. Second, fewer consultants with more complex specialties or consultant vacancies may give rise to a need for more nurses to perform medical roles at a higher level. One CNM2 clearly outlines the effects on nursing care that said:

> Consultants in Irish hospitals exercise influence in decisions in a proportion far beyond their numbers. **G1 (CNM)**

It was found in this study that both Directors of Nursing and Assistant Directors of Nursing viewed that some consultants see nurses as "their" nurses rather than hospital nurses and Directors of Nursing in Irish hospitals are frequently importuned for more staff resources by their nursing staff at the behest of "their" consultant. The close working relationships between senior nurse managers and consultants are largely consultant-led, which in turn can either reduce the influence of senior nurse managers or put greater responsibilities on nurses to provide specialist skills and expertise. Policy makers highlighted the challenge associated with consultants and specialisation and nursing care in relation to skill mix. One policymaker stated that:

> The other side of that coin is the amount of consultants who are employed in a hospital will influence nursing skill mix needs. Each consultant brings a level of specialisation and expertise to a hospital and thus in turn they require specific nursing expertise to support the delivery of patient care. **A4 (PM)**

The relationship between the number of consultants employed on a ward and how nursing skill mix is determined may be interlinked. These findings could be interpreted in two ways: for example if there is an increase in consultants this could mean there is less need for nurses; on the other hand, if there is complementary or overlap, then more doctors generate more work for nurses, influencing skill mix. Clinical managers reported that there could be up to 10 doctors' ward rounds, due to the influence of the variety of patients with different health needs being nursed. This has significant consequences for the number of staff, impacts on workload, and puts pressure on all staff employed on a ward. Clinical Nurse Managers recounted having up to 10 consultants visiting the ward throughout the day:

> [Which] puts extra pressure on the nursing staff and myself as ward manager and plays a significant factor on the patient acuity and nursing

skill required to meet all of the individual consultant's requirements. **G7 (CNM)**

Participants perceived that "the individual consultant's requirements" led to nurse roles being centred on the requirements set by the consultant rather than the delivery of a patient-centred service. Because the service is delivered around the needs of the consultant rather than the patient, these tend to be at a time that suits the consultant's other commitments rather than to the benefit of patient care.

Directors of Nursing and Assistant Directors of Nursing did not talk about the number of consultants as an influence in determining nursing staffing or skill mix requirements. This was unexpected. Some may not come in daily contact with the increased activity generated from an increase in consultant numbers. This raises the question about whether skilled nursing personnel are being used effectively and efficiently, given the increased level of support required from a higher level of ward rounds. The findings suggest the need for an examination and comparison of the use of nursing time of staff nurses (and the CNM2's role) in work activities associated with ward rounds. Only Assistant Directors of Nursing viewed the physical layout of the ward as an influential factor in determining skill mix. They said that the physical ward layout is very important:

> …years ago we had Florence Nightingale wards where it was easier to nurse patients and observe them, as they were all located in the one ward within easy reach…now we have wards made up of a number of single rooms, two-bedded, four-bedded and six-bedded areas, which require larger amounts of nursing and support staff, and influences greatly how you determine your skill mix. **E4 (ADON)**

Theme one describes the various diverse influences that impact on the determination of nursing skill mix. Therefore, important influencing factors are the historical development of health policy changes in care in Ireland, the understanding of skill mix terminology, impact of trade unions, nursing resources and the involvement of nursing personnel in consultants ward rounds.

Thematic analysis shows a divergence between policymakers and nurses regarding the factors influencing how nursing skill mix is determined. Policy makers did not draw a relationship between quality of care and skill mix determination. Policy makers saw a relationship between the influences of trade unions on the determination of skill mix, whereas other grades did not. This is likely to be the case because policymakers engage with trade unions when disputes arise. It would not be expected that all groups would have the same views and the level of divergence is not, overall, more than might have been expected. These different views reflect different priorities, and access to different types of information, at different levels, for determining nursing skill mix in the acute hospital sector in Ireland. It underlines the complexity of nursing skill mix determination but it also highlights a need to create a national effective nursing skill mix system.

6.3 Theme 2: Ambiguities of nursing roles in acute care

This theme demonstrates ambiguity in relation to the role of nurses in contemporary Ireland. The legitimate role of the nurse within acute general hospitals has been a subject of role ambiguity and debate. Contemporary nursing has also been deliberated and characterized by ambivalence concerning the legitimate boundaries of the various nursing roles within general hospitals. Some nursing managers perceived they were confused about their own role, and many were confused about the role of Clinical Nurse Managers. Other participants perceived they were confused about nursing roles, as to who should do what, and why. Participants said they experienced confusion about the various nursing grades working in acute general hospitals. Certain grades such as HCAs have greater clarity of role; but there is considerable confusion about other grades, including CNM 1 and CNM 3, senior staff nurses and registered general nurses. There are four key issues which contributed to this confusion. First, the traditional apprenticeship model of nurse training and education; second, policies which have given rise to an overabundance of diverse nursing roles in recent years; and third, the delegation of nursing duties to other grades. The fourth issue is that the actual nursing skill mix is different in every Irish hospital in this study because differences grew unchecked over the years and demand for nursing care varies from hospital to hospital.

Directors of Nursing have major concerns that the roles of nursing within the hospital settings are not well defined and consequently not well developed or evaluated. One Director of Nursing stated that:

> In particular the roles between CNM1s and senior staff nurse grades are very, very blurred and this can lead to a lot of difficulties and confusion …these roles have never been evaluated. **C4 (DON)**

There are various grades and roles, with immense overlap, leading to role confusion and one nursing manager found: "major problems*"* from "so many nursing roles, I am not sure who's doing what!". She commented on the excess of overlap, the lack of clarity of nursing roles, and the confusion for patients and their families. Participants said there is confusion in specific nursing roles, including the roles of Clinical Nurse Managers, of senior staff nurses and of staff nurses working in acute general hospitals. Participants expressed concern at the lack of supernumerary capacity of CNM 2s at ward level, which gave rise to their inability to devolve certain roles and nursing practices to nursing staff and the unwillingness of nursing staff to take on extra responsibilities. One CNM2 described the lack of supernumerary capacity and its effect on the role of the CNM2:

> …from the CNM point of view, I am not supernumerary and this has a major impact on my role as I often have to substitute for a staff nurse in her absence, which inhibits me from functioning in the role. **G3 (CNM)**

The roles of clinical nurse specialist, whose responsibility is to clinically care for a specific interest group of patients, and advanced nurse practitioners, whose role includes responsibilities for taking charge of a caseload of patients and caring for patients requiring expert advanced nursing skills, were described as clear and supportive. One Assistant Director of Nursing stated that:

> They are especially good supportive roles to any ward, especially things like advice and support to patients and the nurse. Their roles are very

> clear, supported by clarity from the guidelines in developing clinical nurse specialists posts by the National Council for Nursing and Midwifery. **E7 (ADON)**

Some individuals who included Directors of Nursing Planning and Development and Directors of Nursing identified confusion relating to the roles of senior staff nurses and staff nurses working in acute general hospitals, in particular, their lack of responsibility and accountability. Policy makers and Assistant Directors of Nursing reported that senior staff nurses are obtaining financial benefit with little extra responsibilities being undertaken. Proven competency of the individual nurse being awarded the grade was not essential indicating a perception that nurses are being paid a monetary allowance to undertake extra responsibilities which conflicts with their level of responsibility. Participants also indicated that there is no alteration in the role expectation of senior staff nurses either and that the position of the senior staff nurse grade has not been reviewed or audited in any way. A Director of Nursing stated that:

> There is no clarity regarding the role of a senior staff nurse. This deal that was done that gives senior staff nurses an allowance with no commitment to perform extra duties…crazy…so they got the money, but there is not the responsibility or the acceptance to have extra responsibility. There has been absolutely no review on the impact from a patient care and team effectiveness since this new grade commenced as a result of the Commission of Nursing. **C6 (DON)**

Concerns around the actual process by which CNM1 positions were recruited and implemented were expressed by a number of participants. Participants agreed that all of these positions should have been recruited on an open competition basis rather than the actual awarding to 50 per cent on seniority. Many participants viewed this as a major weakness in nursing skill mix, because appointing on seniority ignored the skill sets and qualifications possessed (and, more importantly, not possessed) by the new appointees.

> I think CNM1s are not utilised as such; they don't take extra responsibilities and are the same as staff nurses really. ……I am sure this is the result of how they were recruited … seniority rather than competence. **C9 (DON)**

Their perceptions about the role of CNM 1 vary from hospital to hospital. These variations included (a) supporting the CNM2, (b) training and (c) education of staff or specifically taking responsibilities for areas, such as teaching and staff education, health and safety and infection control. One policymaker stated that the Clinical Nurse Manager was viewed as a non-role*:*

> Many people view the role of the CNM1 as being a non-role and most directors of nursing in the country have not evaluated or work with the CNM role to any serious extent and have not articulated what specific role there ought to be for the CNM1…they have turned a very much blind eye to the role and responsibilities associated with the CNM1. **A8 (PM)**

A number of Directors of Nursing and Assistant Directors of Nursing perceived that several Clinical Nurse Managers do not want to be responsible for the management of their wards but wish to engage merely in clinical management of patients and thus refuse to manage as a result they prefer and seek direction. They are paid for the management function but do not deliver it. Nurses become accustomed to being 'managed' by various levels of experienced or inexperienced nurse managers. It was found in this study by a number of participants that there are still too many Clinical Nurse Managers who saw their elevation as a device to give them a pay increase they believed that they deserved rather than an elevation to a role that required them to manage or to supervise. This is a critical issue that can no longer remain unresolved. Some participants suggested that the role of Clinical Nurse Specialists working in acute general hospitals is very well defined with clear boundaries in relation to delegation of authority. One Director of Nursing, Planning and Development outlined the purpose of the National Council for Nursing and Midwifery in supporting the role clarity of clinical nurse specialist nationally:

> The roles of clinical nurse specialists are very well defined as they all work within the five competencies as per the National Council for Nursing in Ireland. **B2 (DONPDU)**

This ensures that there is clarity among all other staff regarding the roles of clinical nurse specialists.

Policy makers and Directors of Nursing from acute hospital have concerns about the role clarity of CNM 3 positions. These focused on role differentiation between CNM2 and CNM3 positions and the clarity of roles of between CNM 3 and Divisional Nurse manager grades. A policy maker described the CNM3 role as one:

> …which I am not sure what exactly this role is because there is fuzziness between the role of a divisional nurse manager and a CNM3, and a CNM2, and a CNM3. **A2 (PM)**

However, participants in this study said the role of healthcare assistant working in acute general hospitals was clear. This may, in part, be attributable to the fact that HCAs have, in Ireland, only recently become part of the multidisciplinary team and their role has been subject to formal definition, thus leading to greater clarity. Several participants said this in different ways. One Assistant Director of Nursing said:

> We are running the FETAC course for the development of the ward attendant role. So, it's very clear in terms of what they can or can't do at the moment. **C1 (DON)**

This is a significant view as confusion in nursing roles in direct patient care can create more risk of adverse events. To minimise this risk, nursing appointments to ICU and Emergency Departments (EDs) tend to be given the priority they deserve and vacancies tend to be filled by nurses with all the competencies, qualifications and experience needed. Every respondent in the Director of Nursing, Assistant Director of Nursing and Clinical Nurse Manager groupings

reported that the CNM2 should be involved in determining nursing skill mix to include both RNs and HCA. The CNM was the only role identified in this way by these three participant groupings. Policy makers and Directors of Nursing Planning and Development Units recommended no particular person or role to be involved in determining skill mix.

When participants of the study were asked if the organisation recommended staffing ratios for nurse staffing levels, only one of the participants stated their organisation did. This question was not presented to policy makers. However, in the context of the percentage of staff that should be qualified as compared to unqualified staff, 12 participants to this question reported 80% of the staff should be qualified nursing staff.

One Director of Nursing emphasised the importance of associating skill mix to the number of nurses needed on a ward to provide good standards of care because:

> For me nursing staffing levels would be the number of nurses working on the ward level, that you know we would have the same number of nurses for the patients and to provide good standards of care. **C9 (DON)**

Some participants had significant concerns relating to the lack of evaluation of CNM2 roles which were previously implemented as a result of national policy and the associated challenges relating to the delegation of non-nursing duties. The majority of CNM2s outlined that little review or evaluation had taken place regarding the Clinical Nurse Manager role and the developing needs of their positions. This sentiment is further reinforced by one CNM2 who describes the boundaries of the role of Clinical Nurse Managers as unclear and the need to evaluate these roles to provide role clarity in the future. She stated that:

> Since the Commission of Nursing report 1998 no review…formal or informal has been carried out with me regarding my role and the changes and support I need. **F2 (CNM)**

This CNM said the role has changed so much over the last five years but:

> Nobody is asking me about my view of the role and the challenges associated with these changes. **G8 (CNM)**

The work environment and negotiations between HCAs and RNs that take place within it actively shape the healthcare assistant's role and duties. The changing responsibilities of RNs have direct implications for the roles of HCAs: as RNs take on extra duties and responsibilities they are conceding some of their role to HCAs. In turn, this has implications for nurse managers. Therefore the skills of HCAs to carry out nursing work traditionally done by nurses need to be reassessed with ongoing evaluation and supervision of their work to maximise, and further develop, their contribution to patient care and to ensure quality standards. One participant said:

> The role of nurses is continuously expanding and changing due to a host of reasons…therefore it is imperative that the role of the HCAs is developed in tandem to support the expanding roles of nurses in the future. **E5 (CNM)**

This role one CNM concluded should be:

> …evaluated and monitored continually as reassignment of work from nursing staff to HCAs (HCA) expands in the future. **E1 (CNM)**

A number of difficulties associated with the current job description of CNM2 grades were described by participants as "concerning". The data indicated that the job descriptions which were initially issued by the Department of Health and Children in Ireland did not clearly and specifically outline the main job requirements and competencies for these positions. A Director of Nursing Planning and Development stated that:

> The job description was only a few lines and was interpreted by the appointees demonstrated no role clarity as it was more or less written in stone. **B3 (DNMPDU)**

One Director of Nursing said the:

> CNM1 was probably the worst title or job or whatever role that the Commission developed. **C4 (DON)**

In the absence of a formal process to evaluate the influence of these roles within the nursing profession, it is difficult to measure the impact on patient outcomes. Participants say that there is an extra nursing grade within the nursing profession which should enrich nursing skill mix, but does not in practice.

Many participants expressed the importance of delegation as a key mechanism to support and enhance the roles of nurses working in acute general hospitals. The ability to educate and delegate to other nursing personnel effectively, was important in clarifying nursing roles. One Assistant Director of Nursing stated that:

> I still think that there is not a huge amount of accountability for nursing roles as to where they stop and where they start and who takes responsibility. **D3 (ADON)**

Other participants differed in relation to what exact tasks could be delegated to HCAs. Accordingly one clinical Nurse Manger 2 outlined that:

> There is so much confusion among nursing staff around what tasks HCAs can perform, which range from scrubbing in theatres, making beds, taking vital signs … the problem is the nurses are unclear about their own roles and are very reluctant to delegate tasks to others. **G2 (CNM)**

Another Director of Nursing thought the role was crystal clear, far clearer than other nursing roles:

> Their roles are crystal clear…with regard to patient care they are responsible for achieving, for example, toileting needs, bed making, and

then the general laundry and that type of thing. I do think their roles are very clear as compared to nursing roles. **E6 (ADON)**

Participants were less confused about the role of health assistants than about other nursing roles.

This theme represents the challenges associated with the perceived lack of evaluation of nursing roles and nursing delegation. There is evidence of role confusion, particularly in CNM 1, CNM 2 and CNM 3 roles. CNM 1 was not universally recognised as a nurse management role. Role confusion also existed between CNM 2, CNM 3 and Divisional Nurse Managers. Evaluation of nursing skill mix is underdeveloped and guidelines for the delegation of nursing work are needed. The main factor driving nursing skill mix is seen to be financial.

6.4 Theme 3: Inconsistencies in nursing skill mix approaches

This theme covers what participants perceived as the varied approaches that effect how nursing skill mix is determined to include (1) varied methods of nursing skill mix determination and (2) collaborative process between key stakeholders. The process of reviewing approaches to skill mix is an integral part of the management process. There were a number of perceptions in relation to the influences that determine nursing skill mix.

A variety of approaches are used to determine nursing skill mix requirements for acute general band 1 hospitals nationally which include professional judgement, benchmarking and service planning. There is an eagerness by a number of participants to use a workload methodology such as Criteria for Care to assist in the determination of nursing skill mix requirements for acute hospitals, and to make comparisons with other hospitals nationally if implemented successfully. Only one hospital uses it. But there were several principles stated to be used to determine nursing skill mix. The most frequently reported was professional judgement followed by criteria for care, custom and practice, benchmarking, data comparison and national guidelines.

Although workload measurement methods may influence how nursing skill mix is understood and determined in acute general hospitals, and many participants spoke about the value of workload measurements methods, participants viewed that it is rarely a topic of conversation within their working organisations or by national policy organisations to include the Department of Health and Children and the HSE. It arises as a challenge more in its absence, such as when a nurse complains that her workload is intolerable or unsafe. One Director of Nursing summarised the value of workload measurement in assisting the functionality of wards in a general hospital as:

> Having the right person in right place at the right time with the right skills is what I would understand as nursing skill mix and having the correct workload methodology in place to ensure optimum patient care. **C5 (DON)**

Policy makers said there was an absence of scientific methodology or approaches being used by acute hospitals and national bodies such as the National Hospitals Office and the Department of Health and Children in Ireland. Nursing skill mix, they suggest, is one current example of this. Policy makers said this was a disadvantage in the current system:

> There are no scientific data or approaches used by national bodies and acute general hospitals, so there's only wish lists when discussing skill mix at a strategic level. **A1 (PM)**

There was little agreement between policymakers and the main nursing groups for acute general hospitals (in acute hospital settings and outside) on how to establish methods that determine nursing skill mix. Policy makers viewed collaboration and communication in relation to skill mix between the acute general hospitals' nursing staff and the HSE, the Department of Health and Children, and the National Hospitals Office as ineffective. This was particularly evident in relation to nurses having an input into determining nursing skill mix requirements. Policy makers in this study viewed the absence of collaboration as a major weakness. This could be expected because the majority of policymakers

would not be aware of the extent of professional judgement degree, and detail, of how nurse managers use professional judgement to determine an effective skill mix. The role of professional judgement as a method is not known and policymakers, therefore, may have a low opinion of it as an approach.

Nurse managers also reported that they may have to accept a staff complement which may not meet or may over-replicate, their needs. One Clinical Nurse Manager noted the lack of control over staffing levels and the implications,

> You have no control over what staffing you get, you just have to take what you're given.

Clinical Nurse Managers, policymakers and directors of nursing advocated the use of a robust methodological approach predominately Criteria for Care as a method to determine skill mix. The value of using specific workload methods such as Criteria for Care was highlighted as important by a Clinical Nurse Manager working in a medical ward who stated that:

> Criteria for Care would assist greatly in determining our nursing requirements at ward level…I believe all of the nursing staff would engage in Criteria for Care. **G4 (CNM)**

There is support for such an approach, but, ironically, Criteria for Care was only implemented rigorously in one acute general hospital which included medical and surgical wards. Considerable number of participants supported the use of Criteria for Care as a method but only one hospital had implemented such a methodology to determine skill mix according to a policymaker:

> As far as I am aware, there is only one acute general hospital in Ireland using Criteria for Care as a workload method, which is quite extraordinary in this day and age. **A1(PM)**

There was also discussion by policymakers on the benefits of having a methodical research-based approach such as Criteria for Care in substantiating,

negotiating and critically analysing nursing skill mix requirements. The majority of key stakeholders interviewed described the benefits of using Criteria for Care as a method with an evidence base, and their concern about using an intuitive skill (professional judgement). One policymaker stated that:

> Well, the strengths I suppose of Criteria for Care is that it allows you, using the activities of daily living model and looking at the care that has to be delivered to the patient, to negotiate with key stakeholders your staffing requirements. It also allows you to describe in detail nursing needs of patients using categories and scores, which is very helpful when requesting staffing needs. **A8 (PM)**

Many participants in this study stated that, in their opinion, professional judgement was the main approach used to determining skill mix. The 40 participants included policymakers, assistant directors of nursing and CNM2s.. One policymaker, said:

> Well, it's based on professional judgement, for example, the ward sister's judgement…should know or should know through experience what staffing levels she requires to deliver safe patient care. **A4 (PM)**

An Assistant Director of Nursing strongly advocated:

> Professional judgment…that is the experience of the Clinical Nurse Manager and nursing staff is most definitely the best method of calculating staff requirements for a ward. **E5 (ADON)**

A Clinical Nurse Manager agreed "To be honest, most of that is my judgment" **G4 (CNM)** . Some participants indicated that professional judgment includes the nurse's experience on the ward, coupled with how long they have qualified.

One CNM2 commented on nursing staff as follows are described as:

> They usually are classified as either senior or junior". However, professional judgment as an approach to determining skill mix was not reported by Directors of the Nursing, Planning and Development Units or Directors of Nursing. It is surprising that Directors of Nursing, who take overall responsibility for the management of the nursing workforce, did not emphasise professional judgement as an approach to determine skill mix. **F6 (CNM)**

The following quotation is a reflection of these views of these participants. According to one Assistant Director of Nursing:

> We have used our professional views, feelings, instincts for years, relating to how many staff we require to manage an acute general hospital or department. This may fluctuate depending on patient need. However, our views are not accepted by senior managers/policymakers generally because it's very difficult to document your professional view on paper. Therefore, it's debatable whether nurse's experience is acceptable in quantifying nursing skill mix for a ward or hospital. **E6 (ADON)**

Participants questioned whether a nurse's experience is acceptable in quantifying nursing skill mix for a ward or hospital. There is a widespread lack of confidence in professional judgment as an approach almost as widespread as it use among participants, due mainly to its reported lack of scientific credibility and the difficulty in explaining professional judgment as a credible tool in determining nursing skill mix. These limitations were expressed by all of the participants who said professional judgment was the most widely used approach or who used it themselves. Notwithstanding these limitations, professional judgment is the most commonly used approach currently used to determine nursing skill mix in hospitals in Ireland. One CNM2 described her experience of using professional judgement as very difficult to articulate in writing:

> …what you mean by your professional judgment (or your nursing experience) which is a major disadvantage for ward managers in trying to ensure our skill mix is adequate at ward level. **G1 (CNM)**

Professional judgement making was affirmed by policymakers as the main approach for determining nursing skill mix but not by any of the other category of participants. The following quotation illustrates the views of policy makers:

> I don't think you can ever take away from the professional judgement of the RN and I think that is the final call…other managers won't always have the real understanding of the complexity and diversity of the patient caseload and the requirements of that (on an individual daily basis or shift basis) as compared to the nurse. **A8 (PM)**

Professional judgment may be the most common approach but it is fraught with difficulty because it lacks a scientific base. In the absence of Criteria for Care or similar approaches, a number of participants, particularly Directors of Nursing, Assistant Directors of Nursing and CNM2s, outlined that they currently use benchmarking as an alternative approach to determine nursing skill mix. According to one CNM2:

> When we estimate our nursing requirements we always benchmark to similar hospitals and their staffing levels in order to make a comparison. **F3 (CNM)**

This principally means making a comparison between similar units within other hospitals nationally. Directors of Nursing and their teams viewed this approach (even though not scientific) as a mechanism for arguing for more staff in the absence of using a scientific workload methodology. However, this is only an argument for more staff if Directors of Nursing are benchmarking against another hospital that has more staff. Moreover, if one hospital gets the skill mix wrong, many hospitals get it wrong. Skill mix 'shopping' could also become common, where a search is made for the most generous rather than the most effective skill mix.

Hospitals will have different specialties, consultant vacancies, patient demand levels, nursing qualifications and experience and a range of other differences that

make benchmarking an inexact system of nursing skill mix. Nevertheless, Benchmarking was considered by Directors of Nursing as one method to substantiate and change nursing skill mix when dealing with senior policymakers. But, CNM2s, while supporting this approach, illustrated that even within the hospital where they work there can be a range of nursing skill mix structures for similar wards, so comparisons and benchmarking are very difficult. This view was articulated by one Clinical Nurse Manager who stated that*:*

> I mean my staffing levels are fixed for years and there's no documentation to substantiate this level…It is reviewed yearly through the service planning but nothing changes because of the staff ceilings.

Another Clinical Nurse Manager outlined that:

> "Within the hospital there seems to be different rules for each ward. For example, similar size ward with similar types of patients have different ratios of staff. There seems to be no uniformity at the same wards. **G5 (CNM)**

Some skill mixes are determined as part of the settlement to the dispute rather than through the proactive involvement of nursing staff. Some participants reported that lack of inclusion in strategic planning, such as service planning, and lack of active involvement in skill mix determination can end up in disputes. Concern was raised regarding the low level of involvement of Directors of Nursing at a strategic level in establishing nursing skill mix. One Director of Nursing stated that:

> As a Director of Nursing responsible for the largest number of staff employed in the hospital, you would imagine that I would be engaged with the Department of Health and other agencies in relation to determining in a strategic way my nursing skill mix requirements. **C1 (DON)**

Directors of Nursing are not engaged in any way: "…if anything I feel it is disgraceful that I am not part of the collaboration process with policymakers as a Director of Nursing." **C1 (DON)**

The Directors of the Nursing, Planning and Development Units viewed the function of determining skill mix for acute hospitals as being within the remit of the Directors of Nursing. The Directors of the Nursing, Planning and Development Units viewed their role as supportive to the Directors of Nursing in this function as illustrated by one Director who said:

> Service plans are the main collaboration method to determine nursing skill mix and this is done solely by the directors of nursing in acute general hospitals but we assist directors in collaborating with key stakeholders as necessary. **C2 (DON)**

This suggests that Directors of Nursing are widely seen as having responsibility for skill mix but not having the power to influence decision-making relating to nursing skill mix. Directors of Nursing from acute general hospitals discussed the main process of determining nursing skill mix as collaboration within their own nursing team locally and not necessarily collaboration with policymakers. One Director of Nursing said the chain of communication was:

> Through the assistant directors of nursing who is the key lynchpin in collaboration process. **C1 (DON)**

Several participants described internal mechanisms for collaboration within local hospitals. The mechanisms included service planning, partnership forums, presenting a business case, and hospital corporate management meetings. One Director of Nursing highlighted service planning as an approach:

> This is achieved through the service planning approach and networking with key individuals formally and informally. **C8 (DON)**

Directors of Nursing engage in a variety of internal processes to determine nursing skill mix locally, which, where and when it happens, is a strength of the current system. However, there is no uniformity between the various hospitals involved in the research regarding the internal mechanisms used to determine nursing skill mix; i.e. some used service planning, others used discussion with general managers. Regardless of whether or not there is a need for absolute uniformity to determine skill mix, there is a need to agree which approaches are more effective and to document the supporting evidence of the approaches agreed. Also, the limitations of this process mean that directors of nursing do not have, or have minimal, input at a strategic level with senior policymakers from different agencies, who have a key involvement in influencing nursing skill mix. Unexpectedly, all assistant directors of nursing considered collaboration amongst stakeholders, such as local nursing staff, directors themselves, key medical consultants and union representatives, as critical to the process. As one Assistant Director of Nursing said:

> Local discussion with staff, director of nursing and general manager, but it all boils down to money. **E1 (ADON)**

Assistant Directors of Nursing also agreed with the views of the Directors of Nursing by suggesting that service planning was an essential mechanism to use in determining nursing skill mix. The service plan was viewed as a key document which involved a number of key stakeholders in its development but allowed nurses an input at corporate level to discuss their nursing skill mix needs locally. CNM2s agreed with Assistant Directors of Nursing and Nursing Directors that local discussion with staff was critical in the process of determining nursing skill mix. Service planning was seen as a key instrument or tool to assist this process. One Assistant Director of Nursing outlined that:

> Collaboration and discussion on skill mix needs are driven by the service planning process which has value but can be frustrating. **E6 (ADON)**

Several Assistant Directors of Nursing referred to the importance of communication between all members of staff. CNM2s said that engaging in local

discussion and collaboration is limited in yielding satisfactory outcomes. The managers pointed out that there is a ceiling on recruiting staff and that therefore there was very little point in becoming involved in the process and raising staff's expectations. One Clinical Nurse Manager said:

> There's very little point in getting involved in this skill mix stuff. Staff will expect that something will happen but nothing does because of the ceilings. **G3 (CNM)**

Managers said benchmarking was one approach to determining skill mix and some considered this to be part of their responsibility. CNM2s valued more empirical methods such as Criteria for Care. They (1) did not use Criteria for Care, and (2) said it was important that they continue to use benchmarking as an approach to determining skill mix (possibly because it is an accepted mechanism for getting more staff). Benchmarking in Ireland is a simple informal process where one nurse manager contacts another nurse manager in a different agency, hospital or location and compares skill mix arrangements in place. It is clear that benchmarking is a poor approximation for an effective skill mix method and its use should be questioned in relation to its value. The use of professional judgement should also end, with the launch of the national scaleable model of skill mix defined, described, discussed and recommended in the next chapter.

The three themes have been presented above. Before drawing summary conclusions about them, some quantitative results from closed questions asked in the interviews are firstly presented in the next section.

6.5 Quantitative results from the interviews

Specific information was sought in the interviews that that were most appropriately asked about in a closed-ended question format. In particular the closed questions were:

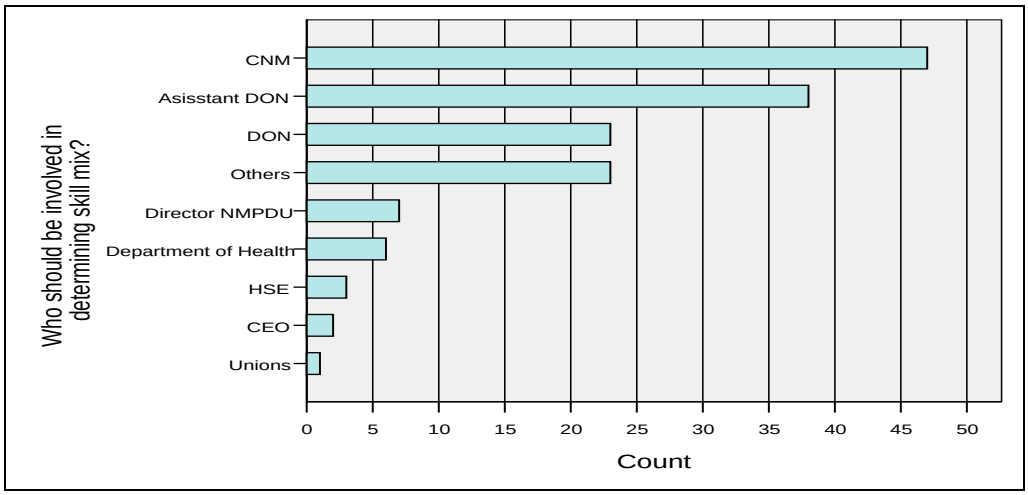
1. Who should be involved in determining nursing skill mix?
2. What are the influencing factors associated with determining nursing skill mix
3. What are the main principles involved in determining nursing skill mix?
4. What are the recommended staffing ratios for nurse staffing levels?
5. How often and what indicators are used to evaluate the effectiveness of nursing skill mix guidelines?
6. What methods are used to identify education needs of staff?

In each case a list of options, based on the literature review, was offered, with the choice of "other" also available.

6.5.1 People involved in determining nursing skill mix

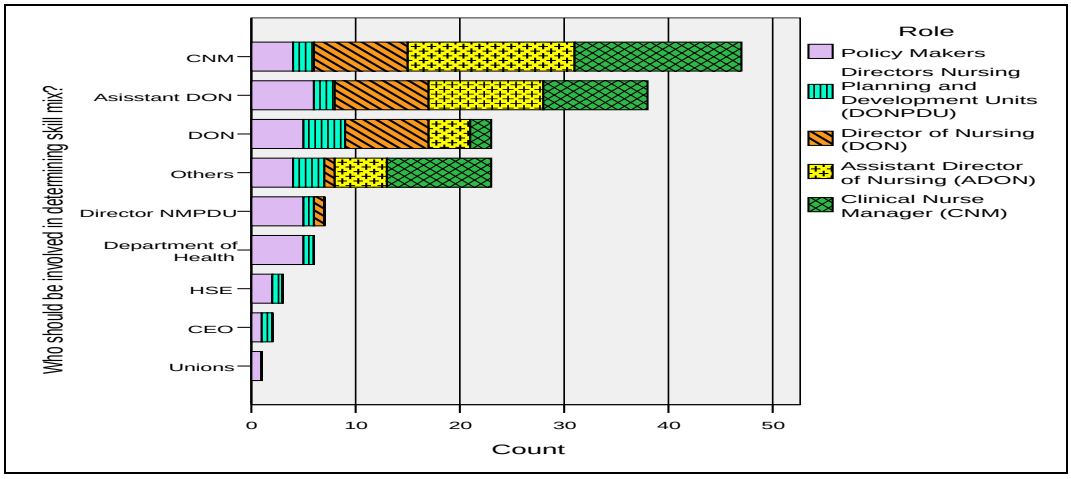
Regarding who should be involved in determining skill mix, almost one third of participants reported that Clinical Nurse Managers should be involved (n = 47 or 87.04%) with the second most reported role Assistant Director of Nursing (n = 38, or 70.4%) as described in Figure 1.

Figure 1: People involved in determining nursing skill mix



However, when examining the perceptions of who should determine nursing skill mix by role grouping, the Policy Maker grouping followed by the Directors Nursing Planning and Development Units reported the most mixed responses of who should be involved. It appears that the closer to patient care, the less varied the perception regarding who should be involved in determining nursing skill mix as illustrated in Figure 2.

Figure 2: People involved in determining nursing skill mix grouped by participant category



The findings became more interesting when examining the notably more consistent report of nursing roles more closely related to direct patient care. Every respondent in the Director of Nursing, Assistant Director of Nursing and Clinical Nurse Manager groupings report that the Clinical Nurse Manager should be involved in determining nursing skill mix. The Clinical Nurse Manager was the only role reported by all of these three participant groupings. When exploring the Policy makers and Directors of Nursing Planning and Development Units, there was no particular person or role that was reported by every respondent to be involved in determining skill mix.

6.5.2. Factors influencing the determination of nursing skill mix

The most frequently reported influencing factors regarding the determination of nursing skill mix related to historical factors and patient activity as described in Table 2. Other factors perceived included quality patient care and financial resources. Additionally staff competency, planning nursing care, ward layout, custom and practice and trade unions were perceived as significant.

Table 2: The factors influencing skill mix determination grouped by participant category (Med= Medicine; Surg= Surgery)

	Participants						
Influences	Policy Makers	Directors of NMPDU	DoN	ADoN Med	ADoN Surg	CNM Med	CNM Surg
Staff Competencies	X					X	X
Custom and Practice	X						
Planning nursing care						X	X
Historical	X		X	X	X	X	X
Quality and Patient Care		X	X	X	X	X	X
Patient Activity	X	X	X	X	X	X	X
Financial	X	X	X	X	X		
Ward layout				X	X		
Doctors	X					X	X
Trade Unions	X						

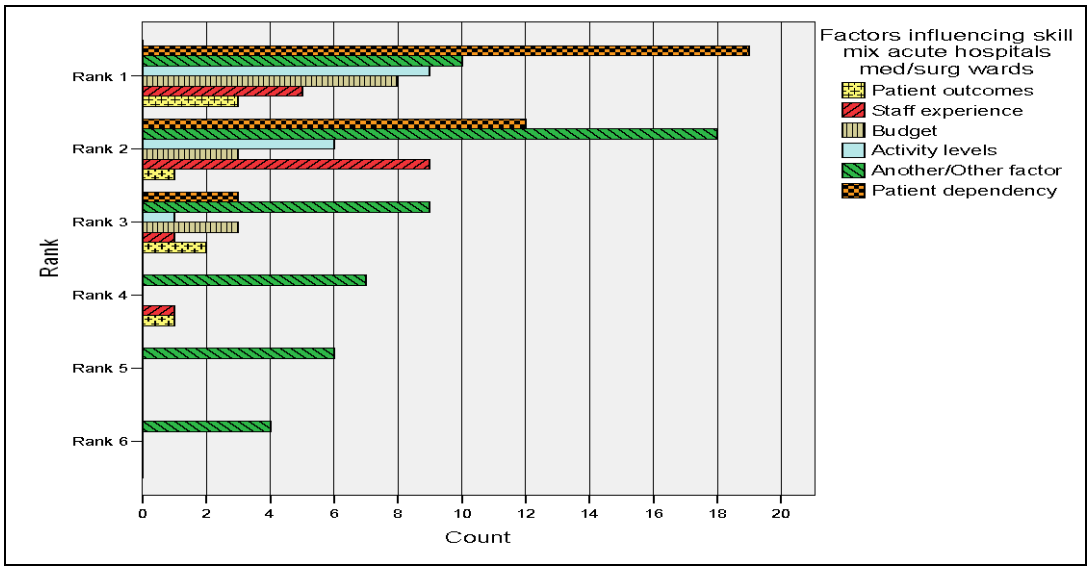
Interestingly, when the data from a quantitative perspective was analysed, findings supported that, activity, budget and staff experience were frequently reported as influencing factors but also patient outcomes and patient dependency was expressed as influential factors too. Table 3 describes participants' views of influencing factors which determine nursing skill mix when analysed quantitatively.

Table 3: Factors influencing skill mix

		Frequency
Valid	Another/Other factor	54
	Patient dependency	34
	Activity levels	16
	Staff experience	16
	Budget	14
	Patient outcomes	7
	Total	141
Missing	System	183
Total		324

When these influencing factors were examined in percentage order, it was reported that patient dependency was the most frequently reported influencing factor after ("other" factors). It should also be noted as described in figure 3 that "patient dependency" was always reported within the first, second or third percentage which is in contrast to "other factors".

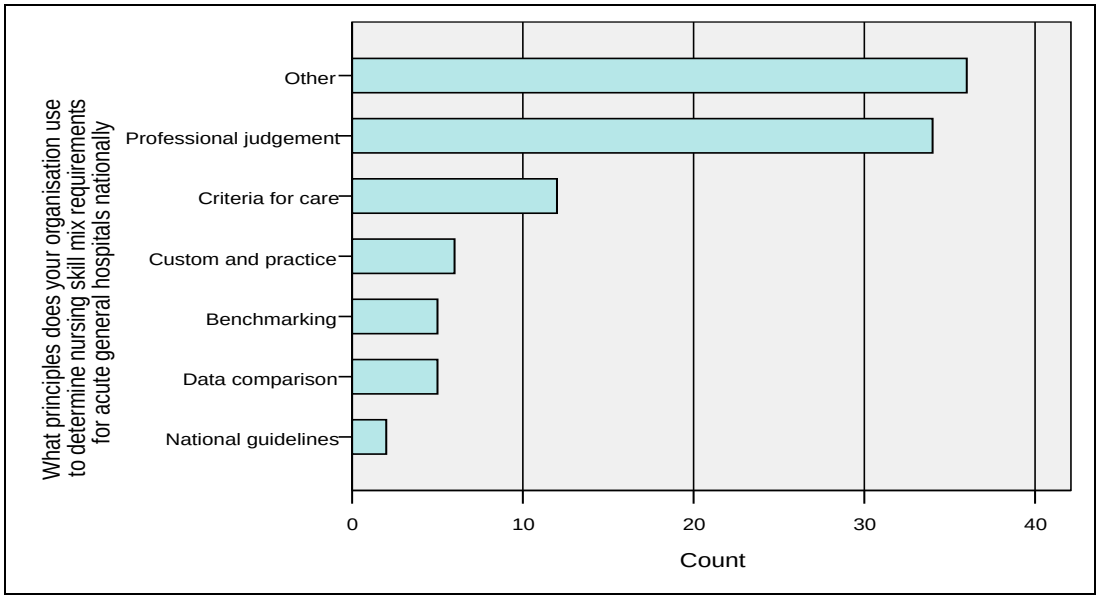
Figure 3: The influencing factors of skill mix, in percentage order



6.5.3. The main principles involved in determining nursing skill mix

The most commonly endorsed principle used by participants in determining skill mix was given as "Other" (than the options given) which included historical factors, third party interventions, patient safety, quality of patient care and staff experience. "Professional judgment" was endorsed by 34 respondents as described in Figure 4.

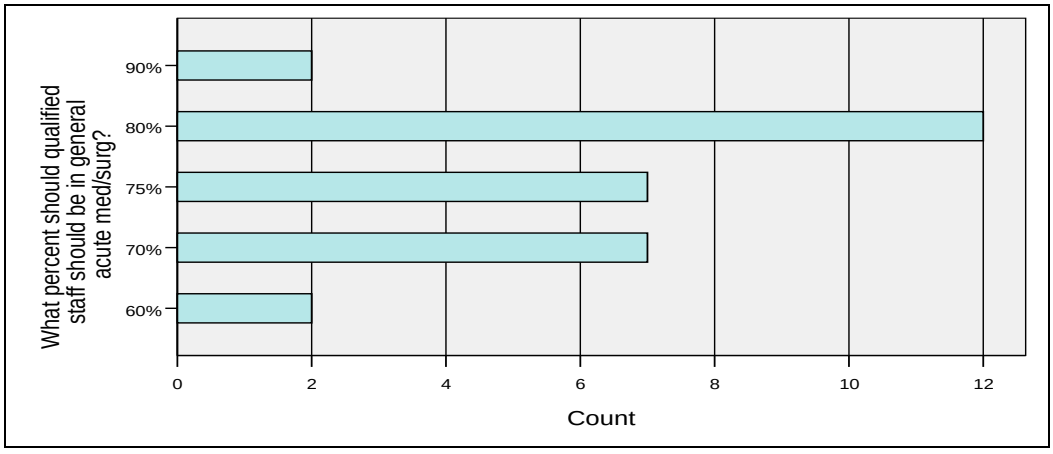
Figure 4: Principles in determining skill mix



6.5.4. Recommended staffing ratios for nurse staffing levels

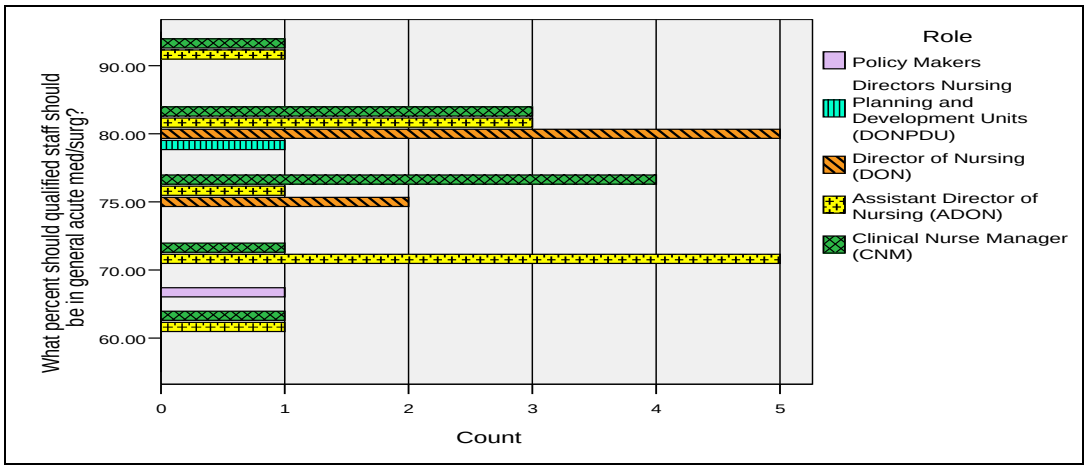
When participants of the study were asked if the organisation recommended staffing ratios for nurse staffing levels, only one of the 37 participants who replied to this question stated their organisation did. This question was not presented to policy makers. However, in the context of the percentage of staff that should be qualified as compared to unqualified staff working in medical and surgical wards, of the 30 respondents to this question, 12 (40%) reported that 80% of the staff should be qualified as described in figure 5.

Figure 5: Percentage of nursing to be qualified staff



On the other hand, when examining the responses of 30 participants to this question, it is noted that there was varied interpretations of the percentage of qualified staff as reported in figure 6. The roles "closest" to the patient (Assistant Directors of Nursing and Clinical Nurse Managers) reported five different percentages, from 60% to 90% as compared to the Directors of Nursing who reported only 75% to 80%. The Directors of Nursing Planning and Development Units reported only 80% and the Policy makers reported only 70% as described in Figure 6.

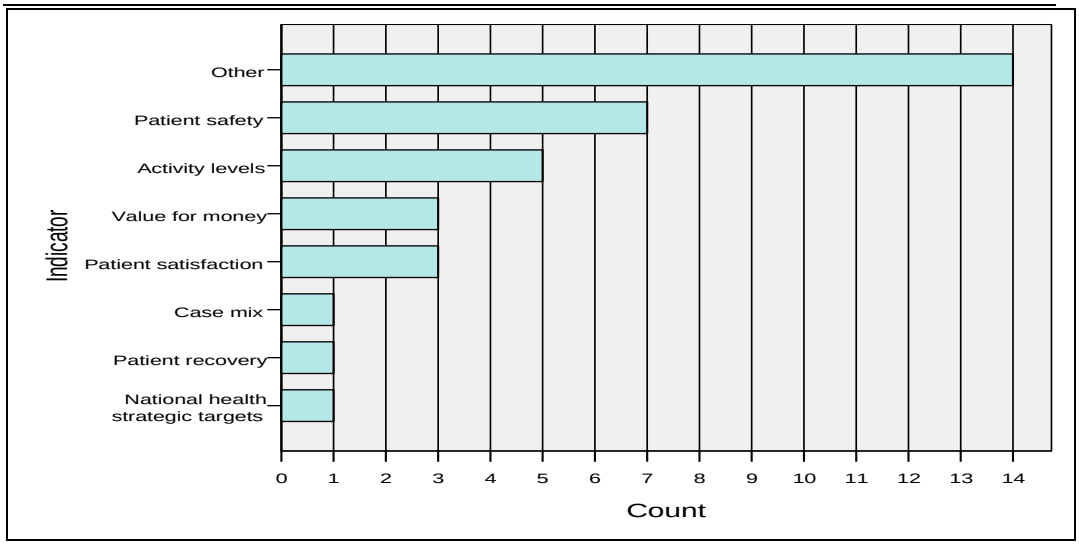
Figure 6: Percentage to be qualified staff, reported by role grouping



6.5.5 Indicators used to evaluate the effectiveness of nursing skill mix guidelines

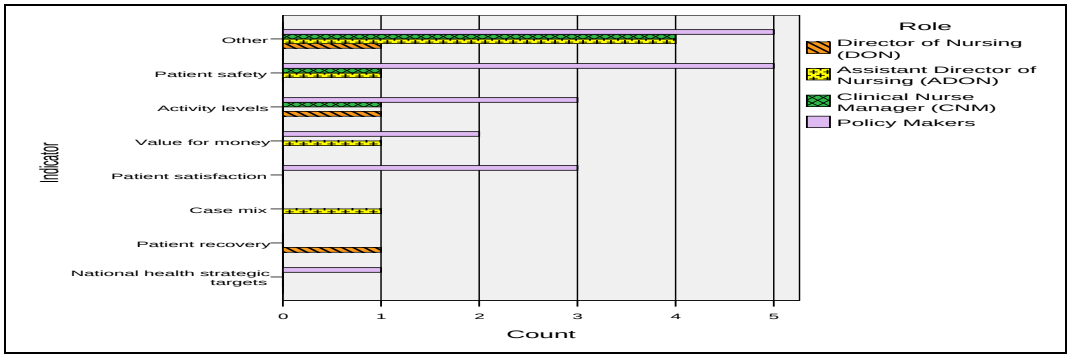
Participants reported on the indicators to evaluate the effectiveness of nursing skill mix guidelines. Participants most commonly reported indicators used to evaluate effectiveness of guidelines as "Other" than those listed (n = 14 or 63% of those who responded to this question) which included activity levels (n=5), patient satisfaction (n = 3), value for money (n = 3) and case mix (n = 1). The second most commonly reported indicator was patient safety (n = 7 or 32% of those who responded to this question). It is noted that 32 of the 54 subjects within this study (59%) did not respond to this question. Please note Figure 7.

Figure 7: Indicators used to evaluate the effectiveness of guidelines



When comparing responses by role grouping policy makers provided the most number of responses to this question about indicators used to evaluate effectiveness of guidelines. Participants in roles closest to the direct care of patient, the Clinical Nurse Managers and Assistant Directors of Nursing, both reported "other" as described in Figure 8 as indicators to evaluate nursing skill mix.

Figure 8: Indicators to evaluate the effectiveness of nursing skill mix guidelines



However, in relation to the frequency of reviewing guidelines on nursing skill mix requirements almost 65% (n= 35) of the participants reported that guidelines on nursing skill mix requirements were never reviewed. The second most common response was "ongoing" which was reported by four participants (7.4%). The remainder of the responses received one to three responses which are described in Table 4.

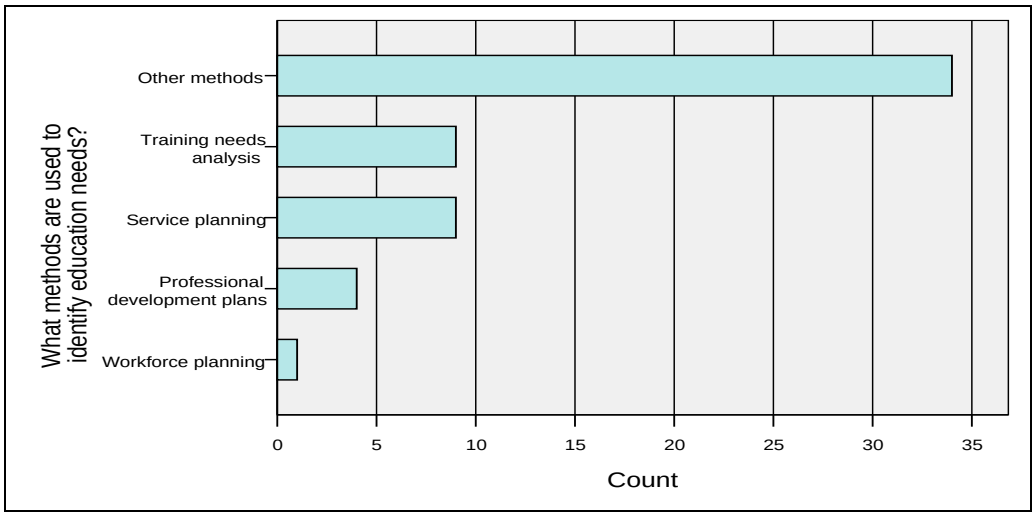
Table 4: Frequency of review of staffing guidelines

	Frequency
Weekly	3
Monthly	3
Yearly	1
Every three years	2
In a crisis	1
Ongoing	4
Based on professional bodies	1
As required	1
Don't know	3
Never	35
Total	54

6.5.6. Methods used to identify education needs of staff

Figure 9 describes the methods used to identify training needs of nursing staff within acute general hospitals. Almost 75.5% of those participants who responded to this question reported "other methods" than those presented were utilised. This question was not presented to the policy makers group.

Figure 9: Methods used to identify education needs



Taken together, the quantitative findings undertaken in this study offer a comprehensive outline of policy makers and nurse manager's perspectives on nursing skill mix. Participants perceive that CNM2s and Assistant Directors of Nursing should be involved in determining nursing skill mix. There are a number of significant factors that contribute to nursing skill mix determination to include

historical factors, patient activity and frequency of medical doctors ward rounds. Other factors included quality patient care, financial resources, staff competency, planning nursing care, ward layout, custom and practice and trade unions.

The most common principles used by participants in determining skill mix was historical factors, third party interventions, patient safety, quality of patient care, staff experience and "Professional Judgment. The percentage of staff who should be qualified as compared to unqualified staff working in medical and surgical wards reported 80% of the staff should be qualified nursing staff. Participants most commonly reported indicators used to evaluate effectiveness of guidelines relating to activity levels, patient satisfaction, value for money and case mix and patient safety. The methods used to identify training needs of nursing were mandatory training, in service training days, weekly teaching sessions, professional development and workforce planning.

6.6 Conclusion

The findings of this phase of the study show that there is a lack of common understanding of how nursing skill mix is determined in acute hospitals in Ireland. Key findings outlined a diverse range of approaches in determining nursing skill mix which are significantly important within the Irish healthcare context. These findings are underpinned by important influencing factors such as the historical development of health policy changes in care in Ireland, the imprecise understanding of the term skill mix, the impact of trade unions, the allocation of nursing resources and the involvement of nursing personnel in consultants ward rounds. Skill mix is a complex subject with many competing influencing factors. These key findings outline that there is an absence of a common standardised approach or methodology to the determination of skill mix in Ireland. In short, a working system for skill mix determination does not exist in acute healthcare Ireland. Despite substantial support for Criteria for Care as an effective nursing skill mix system, only one acute hospital in Ireland uses it. Also, crucially significant is the lack of role clarity with regard to the various nursing grades working in acute hospitals. These have been influenced by a range of influencing and historical factors that impact on the determination of nursing skill mix. These key findings suggests that role clarity and workload

assessment methods need to be agreed and implemented at national level while nursing skill mix influences and nursing numbers need to be agreed and implemented at acute hospital level. The need for wide ranging consultations with the nursing profession and the involvement of nurse managers at ward level is of particular importance to this development.

Chapter 7
Discussion

> We need these traditions not only to know who we are but to know who we can become (Wright 1989, p.45).

7.1 Introduction

Nursing skill mix determination is both complex and under-developed in Ireland. In meeting the challenges of healthcare, policy makers and nurse managers have to find ways to effectively deploy nursing resources optimally and effectively. The approach taken in this research has been to examine the understanding, perspectives and practice of nurses and policy makers of the determination of skill mix in contemporary nursing in Ireland. In Ireland, some nurses are engaging in increasingly specialised roles such as advanced nursing practice and clinical nurse specialist, which are changing in response to patient demands and quality improvements. These changes affect nursing, forcing it to be responsive to new demands including the current severe economic constraints that have resulted in demanding needs for effective utilisation of acute hospital beds and shorter lengths of patient stay. In order to meet these challenges, it is clear that policymakers and nurse managers have to attempt to find ways to efficiently and effectively deploy nursing resources objectively. How nursing skill mix is currently determined may have significant implications for practices involved in establishing optimal nursing skill mix for acute general hospitals in Ireland.

Recent perspectives on micro–macro linkages from sociological theory are used as a framework within which to describe the findings of this study as outlined in Chapter 4. This allows for the integration of insights into nursing skill mix gained from the policy review and from the interview participants. Ritzer's (2003) Sociological Integration Model utilizes an integrationist approach combining micro- and macro-level theories to provide a comprehensive framework, applied in this case to understand and explain the complex issues relating to skill mix determination from maco to micro levels in healthcare.

The discussion of the research findings in this chapter is grouped under the three themes introduced in the previous chapter (see below), which incorporate the quantitative results which were also outlined and integrates the findings of the policy analysis presented in chapter 5. Ritzer's (2008) framework which proposes two axes: a micro-macro axis and a subjective- objective axis (see Figure 10) are used to frame the discussion.

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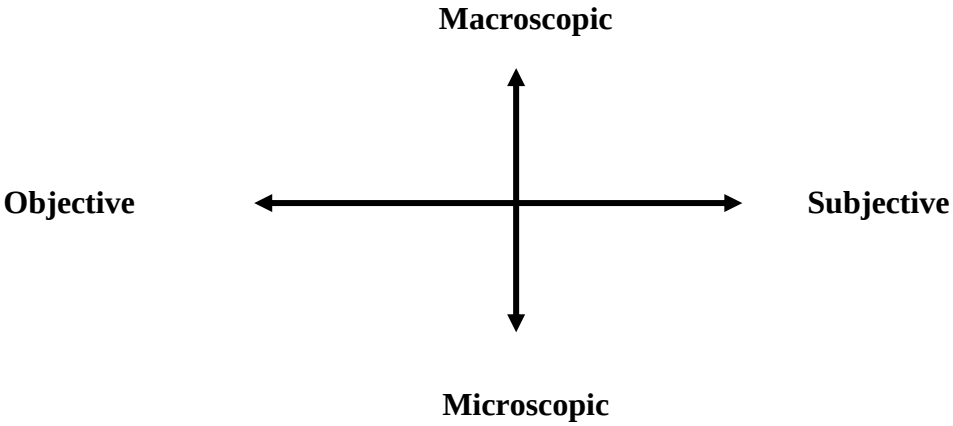
Figure 10: Ritzer's (2008) Integrative framework for social analysis



- Diverse influences on skill mix: macro and micro level factors
- Role ambiguities: objective goals and subjective reality
- Inconsistencies in approaches to determining nursing skill mix: objective subjective tensions

7.2 Theme 1: Diverse influences on skill mix - macro and micro level factors

The most important guarantees of safe patient care in acute hospitals are (1) a sufficient level of appropriately qualified and competent medical doctors, and (2) a sufficient level of appropriately qualified and competent clinical nurses (Commission on Patient Safety and Quality Assurance in Ireland 2008). Deciding what a sufficient level of appropriately qualified and competent nursing resource is an apparently objective exercise, is easier said than done. An effective system of determining nursing skill mix depends crucially on a clear definition of nursing skill mix. One of the difficulties is that there is a lack of common and clear understanding of the term nursing skill mix amongst key participants in the study who are currently involved in determining nursing skill mix requirements for acute hospitals. Healthcare professionals working at

different levels in the healthcare system have quite diverse understandings about what the term nursing skill mix actually means. This study also found subjectivity in understanding and that there is a lack of consistent meaning and understanding of the term "nurse staffing levels" between key participants currently involved in determining staffing requirements for acute hospitals. This may have a significant impact on the current processes used to determine nursing skill mix.

The term nursing skill mix was interpreted subjectively and in wide and varied ways by participants but there was greater clarity of understanding around the term nurse staffing levels compared to nursing skill mix. This may be due to a historical perspective, as the term nurse staffing levels was historically used by the nursing profession in Ireland to describe the amount of staff working within wards and hospitals rather than describing the grade and skill mix of staff. Some of the participants viewed nursing skill mix in qualitative terms and referred to the blend of competencies amongst nursing staff and not the objective number of nursing staff. Policy makers described nursing skill mix as a combination of both RNs (qualified nurses) and HCAs. In other words, the focus was within direct nursing care delivery. This view is similar to those expressed by Crawford *et al.* (1998), Anderson (1997), Gibbings (1995), Oakley and Coulstock (1990) and Robinson (1990) in the UK. However, the views of the policy makers differed from those of the Directors of Nursing of the nursing, planning and development units. The findings from this study found that there is a lack of consistency amongst nurses at various key levels in their understanding of the term nursing skill mix.

The understanding of the term nurse staffing levels is based on two ideas which relate to (1) numbers of nurses employed, and (2) grade mix and experience of nurses. This study found that nurse staffing levels were predominantly seen by participants as an objective quantitative measure, i.e. numbers of nurses employed as compared to the view that nursing skill mix was viewed in qualitative terms, i.e. a description of what competencies nursing staffing and others required to carry out their role.

Participants clearly outlined that future approaches to determining skill mix will be influenced by macro developments in government policy, nursing policy, and technology developments. Participants perceive that nursing skill mix is influenced by certain factors including the quality of patient care, patient activity, financial resources, planning nursing care, custom and practice within nursing, nursing shortages, educational competencies of nurses, professional judgement, trade unions, medical consultants and the physical layout of wards/departments, therefore sometimes quite local, micro factors. The findings also demonstrated a strong divergence between policy makers and nurses regarding the influencing factors on how nursing skill mix is determined. Policy makers did not draw a relationship between quality of care and skill mix determination as compared to all other grades who participated in this study. However, policy makers saw a strong relationship between the influences of trade unions on the determination of skill mix, whereas other grades did not. All participants in the study generally understood nurse staffing levels as the objective number of nurses employed in a given area. However, while participants referred to nurse staffing levels, they were actually describing what is known in the literature as grade mix. Therefore, if traditional roles and responsibilities in nursing need to change and if the potential gains of nursing skills mix are to be accomplished it is crucial that there is an accurate understanding of the term grade mix and nursing skill mix.

Overall, the findings from the interviews suggest that there is an overall lack of clinical governance in relation to nursing skill mix. This is affected by inadequate financial resources to implement improved levels of skill mix, difficulties in making the case for changes in skill mix which would not be approved by hospital managers, the fact that overall staffing decisions are made by senior nurse managers and the lack of decision-making given to CNM2s to allocate staff at ward, micro level.

The participants in the study reported a range of both macro and micro level influences, which can be categorised under three main groups. The first group relates to influences that are predominately internal to nursing. The second group relates to influences that are derived from a patient focus. The final group relates to other external factors. Each group has a number of subunits: (a) internal

nursing, is made up of the sub-units planning care, staff competence and custom and practice, (b) patient focus comprises the subunits patient activity, finance, and quality patient care and (c) other external factors comprises the subunits ward layout, medical consultant numbers, and trade unions. All subunits and groups come together in the data to enable better understanding of the theme understanding the diversity of influences that determine nursing skill mix.

7.2.1 Factors that are internal to nursing: planning care, custom and practice and staff competencies

Planning nursing care was reported by a large number of participants in the study even though an objective process to have considerably less impact on determining nursing skill mix than the influences more frequently cited. It is important to note that macro issues such as patient acuity, finance, quality and ward layout were separated out as discrete items distinct from planning nursing care for the purposes of this assessment. This finding is in contrast to the conclusion reached by Hughes (1999) in the UK. Hughes found that planning nursing care, based on various approaches used by nurses, is an important component in determining nursing skill mix requirements. When the data was analysed by category of participant, CNM2s were the only group to report objectively that planning nursing care was an important facet in determining nursing skill mix requirements within a ward context. It is possible that CNM2s may consider the relationship between planning nursing care and skill mix requirements to be important micro practice because this is work in which they are directly engaged in on a daily basis.

The literature consistently points to the role of historical factors in determining nursing skill mix (Crossan 2005). The World Health Organisation (2002) revealed evidence that custom and practice was influential in determining nursing skill mix requirements. O'Halloran (2010) suggested that an important potential contribution to the efficient use of the nursing workforce in Ireland is the possibility of nursing skill mix enhancements in the future. However, O Halloran (2008) concludes that the manner in which nursing skill mix is determined in acute hospitals objectively remains unclear and is a contentious subject due to the custom and practices utilised by nurse managers in Ireland

over the last centenary. When the data from this study was analysed by grade of participant, policy makers who function at a macro level were the only stratum of participant that made reference to custom and practice as an influencing factor. This view is illustrated by Scholes (1999) in the UK who found that custom and practice within the nursing profession is seen as a major barrier to changing nursing skill mix as nurses have not carried out this skill, have not developed competence in this area and were not encouraged to do so.

It is important to note that two participant groups referred to the objective/subjective role of staff education and competencies in influencing nursing skill mix. This was viewed as an influence predominately by policy makers and CNM2s. Other grades of participants did not make reference to staff competency when considering nursing skill mix. According to Carr-Hill, Currie and Dixon (2003) in the UK, the literature supports the concept of staff education and competence as crucial to influencing skill mix. Competencies, staff education and professional development are a crucial element of nursing skill mix and relate to the ability of a staff member to carry out a certain function or activity.

7.2.2 Factors influenced by patient focus: patient activity, finance, and quality patient care

All participants, apart from policy makers, considered the subjectivity of quality of patient care as an influential factor when determining nursing skill mix. It is surprising that policy makers from a macro perspective did not make reference to quality of patient care, given that quality of patient care is commonly cited as a factor in determining skill mix (Carr-Hill 1992; Aiken and Sloane 1998; Currie *et al.* 2005). This is important and may have implications for how skill mix is determined in Ireland as policy makers are key influences in allocating resources which may impact on skill mix and therefore quality of patient care.

The participants of this study, with the exception of CNM2s, found that the amount of financial resources available was critical in determining nursing skill mix. In the UK, Needham (2002), found that nursing skill mix is dependent on the amount of financial resources available to an acute general hospital, which

dictates the amount and mix of staff grade that can be employed at ward level. However, in Ireland the Brennan Report (2003) suggested that health care management systems were not designed to develop cost consciousness among those who make decisions to commit resources and provide no incentives to manage costs effectively. When the data in this particular theme is analysed, based on participants' views, the findings demonstrate at a micro level that CNM2s did not express an opinion regarding the relationship between financial resources and the determination of nursing skill mix. CNM2s in the Irish health service are directly involved in managing nursing skill mix on a daily basis. Why CNM2s do not mention the relationship between skill mix and financial resources warrants further exploration particularly of its subjective nature. It could be inferred that as the CNM2 is not a budget-holder, the relationship between finance and skill mix may be removed from their everyday experience. This particular view is not supported by the general published literature.

7.2.3 Other influencing factors: ward layout, medical consultant numbers, and trade unions

All participants viewed "historical factors" as a major influential factor in determining how nurse staffing levels are understood. They reported that previous numbers of staff allocated to wards or units influenced the number of current staff in those areas. Their subjective perceptions of historical factors included "the numbers of staff traditionally employed in a hospital or a ward" and "whole time equivalent ceilings" rather than based on the specific requirements that are required to meet a service need. Overall, this study found that historical factors were a key influence in determining nurse staffing levels.

When participants of the study were asked if the organisation recommended staffing ratios for nurse staffing levels, only one of the 37 participants who replied to this question stated their organisation did. However, in the context of the percentage of staff that should be qualified as compared to unqualified staff working in medical and surgical wards 30 participants to this question predominantly reported 80 per cent of the staff should be qualified nursing staff . But there were varied interpretations reported regarding the subjectivity of what the percentage of qualified staff required to determine nursing skill mix on

medical and surgical wards. Those with roles closest to the patient (Assistant Directors of Nursing and Clinical Nurse Managers) reported a range of between 60 per cent to 90 per cent, compared to the Directors of Nursing who reported a far narrower range of 75 per cent to 80 per cent. The Directors of Nursing Planning and Development Units reported only 80 per cent and the policy makers reported 70 per cent.

Adopting recommended nurse staffing levels would be justified if quality of life of nursing patients improved substantially from greater nurse and nurse assistant presence. Without regulatory initiatives, the challenge of implementing fixed staffing levels is a major challenge. Without such information, actions by policy makers and hospital decision makers working at a macro level could be undertaken without understanding nurse's views about the desirability of and expected impact of this regulatory initiative. Also fixed staffing levels are relatively inflexible and have the potential to be inefficient if calculated incorrectly. However, adopting recommended nurse staffing in acute general hospitals should be justified on the basis of quality patient care and nurse's professional views and judgements.

The author was unable to identify any other published literature or research in Ireland which either supported or refuted this particular finding. In the conclusion to this finding it is recommended that this aspect warrants further exploration in order to develop a stronger evidence base. Overall, the understanding of the term nurse staffing levels is based on two themes which relate to numbers of nurses employed and grade mix and experience of nurses. However, the major finding revealed is that the influence of historical factors on how nursing requirements were originally determined plays a significant role in the perception of how nurse staffing levels were understood by participants in this study.

The number of consultants that are employed directly or indirectly on a ward was considered from a macro perspective by policy makers and micro perspective by CNM2s to be a major influence in determining nursing skill mix needs for wards in acute hospitals. The requirement for more nurses as a result of changing the

number of consultants may arise in two different ways. Firstly, more consultants can give rise to an increase in hospital activity; therefore, requiring more nurses. Secondly, a change in skill mix emerging from fewer consultants may give rise to a need for more nurses performing at a higher level. There is evidence in the literature to suggest that the relationship between medicine and nursing skill mix relates in the main to the impact of European Union (EU) legislation and/or the modernisation agenda in Ireland as cited in the *National Taskforce on Medical Staffing* report (2005). These findings could be interpreted in two ways. On the one hand, if there is an increase in the number of consultants this could mean there is less need for nurses; on the other hand, if there is complementarity or overlap, then more doctors generate more work for nurses, influencing skill mix.

The participants in this study expanded on this subjective/objective issue by suggesting that the greater the number of consultants the greater the level of clinical activity generated on a ward. A number of clinical managers reported that there could be up to 8 to 12 doctors' ward rounds due to the influence of the variety of patients with different health needs being nursed. This has significant consequences for the number of nursing staff and impact on nursing workload, and the consequences for nursing staff employed on a ward. How ward rounds are conducted is important. On the one hand, they can be time consuming and maybe perceived as swallowing up valuable nursing time, and, on the other hand, they can identify conditions or changes in conditions that can improve the patient's experience and hasten their recovery and discharge. Not all patients will present with typical textbook symptoms, and some patients may have multiple care needs (for example, diabetic treatment taking precedence over mental health treatment). These and other patient needs can all delay the smooth and timely system of rounds and, thereby, the system of nursing skill mix which may have adverse effects on patients recovery.

The Directors of Nursing and Assistant Directors of Nursing did not mention the number of consultants as an influence in determining nursing skill mix requirements. It could be suggested that this is related to the fact that they do not necessarily come in daily contact with the increased activity generated from the subsequent increase in consultant's numbers. Of course Directors of Nursing

were all nurse managers and staff nurses at some point in their career and should have experienced consultant activity in a similar way to current CNMs. The relationship between CNMs and consultants is crucial as the consultant depends on the CNMs to keep their workload on track and to keep them informed and well organised. One of the dangers in proposing such a conclusion is that Directors of Nursing (or other study participants) tend not to point out that Directors of Nursing, who work with consultants daily either on hospital boards, managing care, managing budgets, and planning staff to meet new acute healthcare projects, are unaware of the link between increased consultant numbers and nursing skill mix. It is just as plausible to suggest objectively that this is such a normal micro part of everyday working life that it becomes an accepted and unremarkable part of the background. There is also the possibility of support between CNMs and consultants to subvert the aims and objectives of hospital policy, strategy and planning to the benefit of the consultant's patients and work programme. The author of this study has experienced this latter and found that it is widely tolerated provided it does not get out of hand (unfortunately, getting "out of hand" can be defined too flexibly because the extent of the collusion is not known).

The findings from this study reported that only Assistant Directors of Nursing, of the groups interviewed, viewed the physical layout of the ward as an influence in determining nursing skill mix. This is surprising, as evidence from the literature highlights the importance of ward design and nursing workload and skill mix in fostering a safe environment for patient care. According to Hurst (2006) there are important relationships between ward design, patient welfare and staff activity in the literature but studies seem not to have tested all the variables. Whether ward designs influence nursing skill mix, therefore, has not been fully answered. While studies provide helpful guidance, nursing efficiency and effectiveness implications are speculative. If the ward layout is compact or is not dispersed in different sections or is not a very large ward everyone has to meet constantly and coordinate patient care as they go. The design of hospitals and wards has a greater effect on nursing skill mix than would have been expected before this study and a more extensive study on hospital design as a factor in nursing and healthcare skill mix is now overdue.

The findings from theme one suggest that there is a lack of clear objective definition and interpretation of the term skill mix from a macro and micro perspective. Factors influencing skill mix are predominantly related to the lack of control that clinical managers in particular have over financial resources. Custom and practice and historical patterns have a strong influence on skill mix determination. The increasing consultant numbers on wards has an impact on nursing workload and skill mix requirements and places more demands on clinical managers.

7.3 Theme 2: Ambiguities in nursing roles in acute care: objective goal and subjective realities

This study found that there is confusion regarding nursing roles in Ireland. It appears that this confusion has been exacerbated subjectively by changes in nursing structures that have emerged in recent years in response to macro government reforms and policy. Nursing care may be context specific. However, there are no simple answers to the complex and changing roles of nurses in acute general hospitals, especially given the attempts in the Irish health service to meet the needs of a vast and varied patient population in a range of different settings. Undeniably, acute healthcare takes place in an environment where clinical risk, skill mix disparity and role confusion of staff could cost or endanger life that would cause little dysfunction in other settings. Boyd's (2008) study found role confusion so corrosive, so toxic, in nine enquiries into healthcare scandals in Ireland and the UK that she recommended that role clarity become the seventh element of a clinical governance model in Ireland. The long-term implications of role confusion, which extends to nursing and non-nursing staff and patients, are very serious, particularly as this can lead to a culture of non-intervention at a time when active management has never been more necessary.

Understanding nurse roles is critically important to the process of determining nursing skill mix for the nursing profession both at a macro and micro level to ensure better utilisation of resources and quality outcomes of patient care. This concern has been fuelled to a great extent by the lack of education and training, and processes and systems, on the concept of skill mix. This may in turn have

contributed to the lack of clarity and confusion surrounding the role nurses working within acute hospitals. In the Republic of Ireland there has been much debate in relation to defining and clarifying the role of nurses in acute general hospitals (McCarthy 1994; Report of the Commission of Nursing 1998; Ryan 2000b) and in the development and evolution of nursing education as nursing has moved from an apprentice model of training to an undergraduate four-year nursing degree programme. The significance of these issues for this particular study suggest that one mechanism for enhancing role clarity of nurses is to consider, with An Bord Altranais, how issues of nurse roles and skill mix are incorporated into the planning of nurse education and training, so that nurses are prepared and have the capacity to influence future nursing roles. This has implications for how nurse educational programmes include nurse competencies that can subsequently influence nurse activities and clarify nursing roles.

Achieving and maintaining objective clarity in nursing roles needs to be actively pursued and continuously supported in post-registration education and after graduation. As Cameron and Masterson (2000) argue this is critically important if the role preferences of individuals are to be adjusted to their existing or available roles. In other words, this type of congruence could occur as a result of nurses abandoning or altering some of their existing role preferences in accordance with the degree of their actual involvement in patient care. However, this view needs to be supported by further research and continuous evaluation of nursing roles particularly within an Irish context. Traditional roles and responsibilities of nurses need to adjust if the potential gains of nursing skill mix are to be realised in the future and supported by further education and training. A starting point should be that the introduction of nursing skills mix initiatives should not diminish the quality of service to the patient or compromise patient safety. Changes in skills mix should be compatible with the professional and statutory responsibilities of nurses and supported by the assurance of competencies, skills and knowledge of the individual nurse rather than their job grade. Appropriate initial and continuing education and training programmes, which incorporate both practice and theory, should therefore underpin all nursing roles in Ireland.

This study also points in particular to the lack of clarity and confusion of two specific grades, notably, CNM1 and senior staff nurse grade. Expectations of others about the role of CNM1 are varied within different hospitals. The variations in roles include supporting the CNM2, training and education of staff or specifically taking responsibilities for areas, such as teaching and staff education, health and safety and infection control. This view is supported in the literature where a number of studies have highlighted the complexities associated with justification of nursing roles where the proliferation of new nursing roles potentially clouds the progress made by nurses in clarifying their positions in healthcare settings (see pages 24-34 above).

Concerns about the actual process at a micro level of how CNM1 positions were recruited and implemented are also highlighted in this study. The finding is that there was consensus that all positions should have been recruited on an open competition basis rather than the actual 50 per cent selection on seniority. Many participants viewed this as a major weakness in the context of nursing skill mix, on the basis that seniority may not always relate to the actual competencies and skills required to perform a certain position in nursing. Participants described difficulties associated with the current job description of CNM1 grade, not least because the job descriptions which were initially issued by the Department of Health and Children in Ireland did not clearly and specifically outline the main job requirements and competencies for these positions. However, the research for this study showed that nurses have increasingly recognised their unique skills and valuable contribution to healthcare, and continue to embrace education and professional strategies in order to improve their roles. Changing nursing roles is not an easy option and the success of such initiatives depends on enthusiastic leadership by nurse policy makers in strategically guiding and supporting the profession through these changes. Essential to this process is ensuring clear and unambiguous roles and responsibilities of CNM1s.

There are also difficulties in relation to the awarding process for senior staff nurse positions. Participants reported that the award of these grades was based on seniority (the number of years they have worked) rather than proven competency of the individual nurse being awarded the grade. Subsequently, this has enabled

nurses to move into these positions as an entitlement after a certain number of years employed, rather than actually having to take on the extra responsibilities of the role that they carry. Interestingly, the findings of this study also illustrate issues in relation to the position of the senior staff nurse grade not being reviewed or audited in any way**.** In the absence of formal process to evaluate the impact of these roles within the nursing profession, it is difficult to measure the impact on patient outcomes. The findings of this study suggest that an extra nursing grade within the nursing profession should enrich nursing skill mix. However, there is a lack of evidence to establish if this is actually the case**.** The strong evidence of confusion and lack of clarity of nursing roles within the nursing profession (Watson *et al.* 2008), is born out in this study and is of particular relevance since the introduction of a range of new nursing roles, in particular the CNM2.

This study outlines specific concerns related to the role of fix all these in particular the challenge in combining both managerial and clinical functions and the consequence difficulty regarding delegation to other members of the nursing team. The lack of clarity of the CNM2 roles is related to concerns about the lack of supernumerary capacity of CNM2 at ward level, which results in an inability to devolve certain roles and nursing practices to nursing staff and an unwillingness of nursing staff to take on extra responsibilities. The lack of clarity reflects the complexity of "nursing" itself in the delivery of safe, compassionate, quality patient nursing outcomes. However, concerns were also expressed about the lack of evaluation and review of CNM2 roles. Most of the CNM2s revealed that little review or evaluation had taken place regarding the CNM2 role and of the developing needs of their positions. In order to address these challenges it is imperative that training and education supported by continual professional management development training should be provided to support the operationalisation of the role of CNM2s in practice in acute general hospitals.

There is also confusion pertaining to the role of CNM3 grade. Directors of Nursing, Planning and Development Units and Directors of Nursing from acute hospital had some concerns relating to the role clarity of CNM3 positions. These concerns focused on role differentiation between CNM3 and CNM2 positions. In

order to reduce role ambiguity and the consequent likelihood of negative responses to the roles of Clinical Nurse Managers in the future, clear role definitions and objectives should be developed and communicated to relevant staff groups; and these definitions and role objectives should be updated as necessary.

In contrast, the roles of clinical nurse specialist, whose role is to clinically care for a specific group of patients, and advanced nurse practioners, whose role includes responsibilities for taking charge of a caseload of patients and caring for patients requiring expert advanced nursing skills, were described as reasonably clear and supportive. This is in contrast to evidence found in the literature (see page 41) which found that the recent profusion of similar nursing roles in the UK has led to much confusion in the minds of healthcare consumers, employers, nursing practitioners and educationalists regarding the meaning, scope of practice, preparation for, and expectations of such roles.

The delegation of nursing duties to other grades of healthcare workers was found to be confusing. As a result there are a number of implications relating to delegation and the role of nurses in acute hospital settings in Ireland on the potential impact this has in determining nursing skill mix. Many participants expressed the importance of delegation as a key mechanism to support and enhance the roles of nurses working in acute general hospitals and of the significance of educating qualified nursing staff to delegate appropriate tasks to other nursing personnel effectively. This was perceived as paramount in clarifying nursing roles. However, this study found a diversity of views from participants in relation to what exact tasks could be delegated to HCAs from nursing staff. This is of concern and adds to the challenges inherent in clarifying nursing roles. In particular, there was confusion relating to which nursing skills RNs are specifically competent to perform as compared to the skills that could be transferred to other staff members. Directors of Nursing and policy makers commented that some historically determined duties in nursing could be devolved to other staff members such as HCAs, in relation to tasks such as bed making, personal hygiene and recording temperatures. This view is supported in the literature by Allen (1990) who stated that it is extremely important to use

HCAs in a manner that assures appropriate delegation or assignment of nursing functions and adequate direction and supervision of individuals to whom nursing activities are delegated. Also the Effective Utilisation of Nurses and Midwives Report (DoHC 2001) recommended that HCAs engage in both direct patient care and indirect care activities following delegation by and under the supervision of a RN and that in carrying out their tasks/duties HCAs report to and take direction from a RN.

However, there are dynamic patterns of use, misuse and non-use of the HCAs at a micro level as a resource to patient care, as evidenced from participants in this study. The changing roles of RNs have direct implications for the roles of HCAs. As RNs take on extra duties and responsibilities they are conceding some of their role to HCAs. In turn, this has implications for nurse managers. The competence of HCAs to carry out nursing work needs to be reassessed and there also needs to be ongoing monitoring and supervision of their work to maximise, and further develop, their contribution to patient care and to ensure quality standards. It is therefore incumbent on the nursing profession to define the appropriate educational preparation and role of any group providing services within the scope of nursing practice. This process may help to facilitate delegation of nursing tasks to HCAs in the future.

On the other hand, this study found that the role of clinical nurse specialists working in acute general hospitals is very well defined with clear boundaries in relation to delegation of authority as compared to other nursing roles particularly staff nurses' roles. In addition, that the role of the healthcare assistant working in acute general hospital was viewed by participants as being well defined. This may in part be attributable to the fact that HCAs in Ireland have only recently become part of the multidisciplinary team. Their role as such has been subject to formal definition, thus leading to greater clarity.

In summary, the relationship between understanding nursing skill mix and clarity of nursing roles is undeniably complex and has both objective and subjective aspects. There is confusion about various nursing roles amongst the main stakeholders in acute general hospitals and policy makers in the Republic of

Ireland. The extent and nature of role confusion in Ireland is related to the broad policy context and changes in nursing structure which have emerged. The role of education, training and delegation of nursing duties as key influences on the development of this role confusion is instrumental. There is a lack of clarity of two specific grades, i.e. CNM1 and senior staff nurse grade. Since nursing care is context-specific and nursing skills depend on experience and other factors, there are unlikely to be simple answers to how nursing skill mix is defined, understood and determined. It is important to note that many of the nursing skill mix studies were conducted outside Ireland. Therefore the findings may not be directly transferable to guide the findings of the current study, given contextual differences. However, there is merit in utilising data from outside Ireland to both inform and influence the discussion emerging from this study. Overall, there is role confusion between some nursing grades and role confusion between the former nursing roles and the newer roles in acute healthcare in Ireland. As a result, the effective use of nursing skill mix in acute health care in Ireland will be more difficult to achieve in the light of this perceived nursing role confusion.

Resources are important to each hospital group and each HSE health provider group in approaching nursing skill mix. Where resources are not constrained an effective nursing skill mix system will be easier to implement, embed and impact on improved healthcare. Different approaches to nursing skill mix require different levels and types of resources, in terms of staff time, skills and training, information technology, data generation and analysis, technical support, and management resources. Some approaches to nursing skill mix are relatively resource intensive; others make little additional demands on resources. But the span of control and resource available will, in combination, play a major role in determining which approaches to nursing skill mix are feasible.

This is particularly important because in Chapter 2 it was shown that Ireland appears to have more nurses active in healthcare in the OECD than any other country, except Denmark (OECD 2011). This study must accept, *ceteris paribus* (all things being equal), that there is a misallocation of nurses in Irish healthcare. The alternative is that Irish nurses do less work. Another plausible explanation is that of a misallocation *and* less work done. Today nursing is far more

hierarchical in structure than it was a decade ago. The Commission on Nursing introduced CNM1, CNM2 and CNM3 grades and the number of nurses (talking to, treating, and caring for patients) might be less today than a decade ago when the current hierarchy was not in place. Some increase in the level of nurse staffing would have been needed to provide for increased levels of professional accountability. This thesis does not have the scope to follow up this conundrum but it recommends research be carried out on this area in the future.

7.4 Theme 3: Inconsistencies of skill mix approaches: objective subjective tensions

The findings of this study show an absence of a common standardised approach or methodology for the determination of nursing skill mix in acute band 1 hospitals in Ireland, due to the complexities and tensions between macro and micro demands and also the search for objective measures and processes while subjectivities are part of the reality of day-to-day care planning and provision. There are several significant findings of this study relating to the range of approaches used to determine nursing skill mix provided by the varying participants. Five subcategories make up the theme to include workload measurement methods, professional judgement, benchmarking, third party interventions and patient acuity/dependency, e.g. *Criteria for Care*. These cover a range of subjective and objective approaches, often taken together. In general, the overall findings within this theme are reflected in much of the published literature in particular the taxonomy of methods described by Arthur and James (1994) and the analyses of these provided by Hurst (2003). Workload measurement methods may influence how nursing skill mix is understood. The process of reviewing approaches to skill mix is not an exercise that can be carried out in isolation, but is an integral part of the management process and should be supported by proactive robust nursing governance processes- it happens along a micro (ward/hospitals level) to macro (policy level) continuum. Getting the approach to skill mix right is critical, not only to ensure efficient and cost-effective services, but also to maintain the motivation, interest and enthusiasm of existing staff.

Professional judgment, as one of the variety of approaches used to determine nursing skill mix in general hospitals, emerged as the most common approach**.** This finding is reflected in the general research literature on the topic. However, the literature and this study conclude that it is fraught with difficulty and challenges as an approach because it lacks a scientific base. Most participants in this study stated that in their opinion professional judgement was the main approach used to determining skill mix. The 40 participants included policy makers, Assistant Directors of Nursing and CNM2s. However, professional judgment as an approach to determining skill mix was not reported by Directors of Nursing Planning and Development Units or Directors of Nursing. It is surprising that Directors of Nursing who take overall responsibility for the management of the nursing workforce did not emphasise professional judgement as an approach to determine skill mix given that this is predominant in the literature (Carney 2006). This poses many challenges as professional judgment is often referred to a "gut" feeling or an approach that comes with years of clinical nursing experience. Yet in substantiating nursing skill mix requirements, the literature alludes to the difficulties in accepting this approach as a robust methodology. Twigg (2009) highlights a lack of empirical evidence of the impact of professional judgement as a skill mix method on patient outcomes or whether the guiding principles used in the development of this method are appropriate.

In the absence of published Irish literature, it is not possible to substantiate this point with evidence from the Irish context. Indeed, the lack of research and evidence in this area was part of the reason for initiating this study in the first place. This obviously poses a challenge to the credible utilisation of this approach. How this approach is valued as an appropriate method is debatable. There was a noted lack of confidence in professional judgment as an approach by some respondents in this study, due mainly to its reported lack of scientific credibility and the difficulty in explaining professional judgment as a credible tool in determining nursing skill mix. Buchan (2003) outlined the major constraints of professional judgement as an approach is that if used in isolation, it can have a lack of transparency and objectivity; and there is also a likelihood that any outcome, in terms of proposed changes, may be marginal. These limitations were expressed by all of the participants that viewed professional judgment as an

important approach. Notwithstanding these limitations, professional judgment appeared from the findings of this study as the most commonly used approach currently used to determine nursing skill mix in hospitals in Ireland.

A number of participants, particularly Directors of Nursing, Assistant Directors of Nursing and CNM3s, outlined the fact that they currently use benchmarking as an approach to determine nursing skill mix. This simply means making a comparison between similar units within other hospitals nationally. Bell and Priestley (2000) reported the use of benchmarking to estimate nurse-staffing requirements by Directors of Nursing. This is made possible by the availability of benchmarking databases that enable comparison between the budgeted staffing establishments and levels of staff employed in similar hospitals. The main advantage is that senior nurses now see this as a quick and inexpensive way to estimate nurse-staffing requirements.

Directors of Nursing and their teams viewed this approach (even though not scientific) as a mechanism for arguing for more staff in the absence of using a scientific workload methodology. The findings of this study show that benchmarking was considered by Directors of Nursing as one method to substantiate and change nursing skill mix particularly when dealing with senior policy makers. But, CNM2s, while supporting this approach, illustrated this by suggesting that even within the hospital where they work there can be a range of nursing skill mix structures for similar wards, so comparisons and benchmarking are very difficult. It is clear from the findings of this study that managers viewed benchmarking as a viable approach to determining skill mix and considered this to be part of their responsibility. While managers valued formal approaches such as *Criteria for Change*, they also believed that it is important that they continue to use benchmarking as an approach to determining skill mix. Benchmarking in Ireland is a simple informal process where one nurse manager contacts another nurse manager in a different agency and compares skill mix arrangements in place.

There is evidence from the findings of this study that policy makers positively supported the use of a “third party intervention” approach to facilitate the

determination of nursing skill mix requirements for an acute hospital. Third party intervention in an Irish context refers to formal industrial relations processes which can be brought to bear on a situation when skill mix issues cannot be resolved at a local level. The participants in this study were clear that the third party intervention related to both skill mix and staffing levels. Third party intervention was considered to be an unbiased approach and usually involved personnel who had some experience of establishing nursing skill mix needs. Examples of third party approach included the commission of independent staffing reviews by consultants external to the Irish HSE both in 2002 and 2003 (HSE Employers Agency 2002 and 2003). This particular finding may be a reflection of the centralised power of the unions at national level in Ireland in the context of how nursing skill mix is determined.

Interventions were usually applied when local discussion regarding the increase in staffing levels or skill mix failed. This resulted in the use of the partnership approach endorsed nationally by policy makers. Industrial relations tribunals often recommend a third party intervention in trying to successfully come up with a compromise to the situation in Ireland. Therefore, a third party intervention is triggered when one of the other approaches fails. A third party approach is not necessarily an original option but more often occurs as a second step. However, this approach can undermine and indeed prevent the use and growth of scientific workload analyses to determining nursing skill mix in acute hospitals. Examples of successful third party initiatives include the evaluation of nurses staffing levels in all emergency departments in Ireland 2003 (HSE Employers Agency 2003). It could be argued that it is a simple solution to a challenging problem or conversely an abdication of responsibility. Perhaps the need to go to third party intervention is more about increasing resources than actually getting more nurses. It is difficult to determine precisely how often it is really about patient care and safety and the skill mix necessary to deliver on this as opposed to making the case for an increase in numbers. This may be because there is a lack of understanding regarding the distinction between changing skill mix as opposed to increasing nursing numbers.

The findings of this study pose many challenges associated with patient activity as a method to determine skill mix. These include the association between nursing skill mix and the number and type of patients and the requirement to increase nursing skill mix to deliver safe patient care as patient activity increases. The Directors of Nursing, Assistant Directors of Nursing and Clinical Nurse Managers all emphasised that patient activity played a crucial role in determining nursing skill mix. All of these participants felt strongly that the current activity levels, the mix of patients and the acuity of patients in medical and surgical wards have a significant impact on skill mix requirements for the staff. Policy makers did not specify any relevant arguments signifying the difficulties associated with patient activity, and the effect patient dependency has on nursing skill mix locally. There appears to be divergence in the thinking between policy makers and Directors of Nursing and their staff. Policy makers did not report a relationship between patient activity and skill mix, whereas Directors of Nursing viewed patient activity as central to determining skill mix. In moving forward, there will be increasing difficulty in agreeing a mechanism to deal with nursing skill mix in the absence of a common understanding between policy makers and hospitals managers regarding the influence of patient activity and acuity.

CNM2s, policy makers and Directors of Nursing advocated the use of a robust methodological approach such as *Criteria for Care*. *Criteria for Care* is a UK adaptation of the North American Rush-Medicus System devised in 1976 (Ball and Oreschnick 1986). *Criteria for Care* attempts to provide an information framework for the resolution of a number of questions including, what percentage of time should a nurse spend on direct patient care, how much direct care should be delivered to patients in a particular dependent group, what ratios should exist between the amounts of direct care to be given to patients in each dependency group and what level or quality of care should be achieved? However, the research findings from this study indicate that while this approach has merits, Criteria for Care (as discussed in the literature review above) was only implemented rigorously in one acute general hospital that included medical and surgical wards. This is a very critical finding as the majority of key stakeholders interviewed outlined the benefits of using a workload method tool such as Criteria for Care, and were concerned about using an intuitive skill

(professional judgement) as opposed to a method with an evidence base. However, there was some discussion by policy makers on the benefits of having a methodical research-based approach such as Criteria for Care in substantiating, negotiating and critically analysing nursing skill mix requirements in the future.

Adopting an approach, which takes account of the day-to-day realities of nursing priorities and resources to implement skill mix, requires effective evaluation methods. The findings from this study show a number of indicators that have been used to evaluate effectiveness of skill mix guidelines such as activity levels, patient satisfaction, value for money, case mix and patient satisfaction. However, in relation to the frequency of reviewing guidelines on nursing skill mix requirements many of the participants reported that guidelines on nursing skill mix requirements were never reviewed. As a result, the effectiveness of nursing skill mix across various nursing groups, coupled with the development of new nursing roles, remains comparatively under-explored (Hurst 2006). It is evident from this study that determining nursing skill mix and defining roles, including the role of HCAs, will continue to present a major challenge to the nursing profession and policy makers unless robust guidelines are put in place. These will need to be based on the sound evaluation of existing skill mix and better dissemination of good practices in order to expand the evidence base and support informed decision-making in this area.

In conclusion the findings of this study show that skill mix is a complex and multi-faceted subject. There are many competing and influencing factors to determining nursing skill mix requirements for acute hospitals. The study reported a variety of approaches used to determine nursing skill mix requirements for acute general hospitals nationally. There is an eagerness by a number of participants to use a workload methodology, such as Criteria for Care, to assist in the determination of nursing skill mix requirements for acute hospitals, and at the same time make comparisons with other acute hospitals nationally if implemented successfully**.** However, there is a lack of confidence in the various approaches used to determine nursing skill mix requirements for acute general hospitals, nationally. It is clear from the issues that have been raised and discussed that the perfect tool for determining skill mix is unlikely to

exist, but that future approaches to determining skill mix will be influenced by developments in government policy, nursing, the health service and technology**.**

A significant finding is the absence of a common standardised approach or methodology for the determination of nursing skill mix in Ireland. Also, the manner in which human and financial resources are distributed will have profound consequences for determining nursing skill mix in the future. Yet the importance of establishing an appropriate number and skill mix of nursing staff at the level of ward/unit, hospital and the health service as a whole cannot be underestimated.

There is little agreement between policy makers and the main nursing managers for acute general hospitals, both within acute hospital settings and externally, regarding how to determine nursing skill mix. Policy makers in this study viewed the absence of collaboration and communication between the acute general hospitals, nursing staff and the HSE, the Department of Health and Children, and the National Hospitals Office as inadequate and a major weakness in relation to nursing skill mix. This was particularly evident in relation to nurses' contributions in determining nursing skill mix requirements.

This results in a lack of a strategic management focus being given to this issue. According to Crossan (2003) in the UK, effective strategic management is the means by which organisations achieve their desired levels of performance. As a result the author argues that there is a need to explore and describe the relationship between the profession of nursing and those tasked with the strategic management of the health service**.** A key challenge is the role and contribution of individual nurses to strategic development and implementation of nursing skill mix. This equally holds true for the involvement of all stakeholders in determining skill mix for nursing. Therefore, there is a critical need to bring together these stakeholders at a national level to strategically explore (in collaboration) methods of determining skill mix suitable to an Irish context. This also needs to be further operationalised at local levels, and particularly because many participants in this study described internal mechanisms for collaboration within local hospitals. The mechanisms included service planning, partnership

forums, presenting a business case, and hospital corporate management meetings. The merit of this approach is that Directors of Nursing currently have access to a variety of internal processes to determine nursing skill mix locally.

Nurse managers may have to accept a staffing level which may not meet or may over-replicate their needs. Some of the policy makers who participated in this study stated that nurses only became involved in the process of determining skill mix as a result of an industrial relations dispute. Therefore, it is likely that skill mix requirements are determined as a reaction to a dispute rather than through the proactive involvement of nursing staff. The absence of nurse involvement in strategic planning is crucial to skill mix outcomes, which impacts negatively on organisational culture. As Carney (2006) argues, a strong organisational culture in healthcare is predicated on the strategic involvement of middle managers. However, this study reveals that the lack of inclusion in strategic planning, in areas such as service planning, works against active involvement in skill mix determination.

There were some concerns raised regarding the minimal, if any, involvement of Directors of Nursing at a strategic level in establishing nursing skill mix. This is of relevance because Directors of Nursing should have control and oversight of nursing skill mix if the hospital is to be led effectively. Brown and O'Malley (2004) state that nursing skill mix is an important part of workforce planning carried out by Directors of Nursing, and is crucial to ensuring that cost-effective and appropriate care is delivered to all patients. Even though Directors of Nursing hold strategic positions and are the head of nursing of acute hospitals, there appears to be little collaboration with policy makers regarding this issue. This has implications for Directors of Nursing and their capacity to fulfil their strategic role in determining skill mix requirements. In addition, Carney (2006) found that in Ireland the strategic management of healthcare requires that nurses, and in particular Directors of Nursing, understand the cultural dimensions affecting health service organisations. This is hampered by a general lack of understanding or assessment of how culture influences middle managers' strategic involvement and the resulting outcomes in relation to the power of organisational culture. The absence of scientific methodology or approaches used

by acute hospitals and national bodies such as the National Hospitals Office and the Department of Health and Children in Ireland was viewed by policy makers as a disadvantage in the current system.

The Directors of the Nursing, Planning and Development Units, suggested that the main communication process that takes place in relation to determining nursing skill mix includes discussion with Directors of Nursing, executive board meetings and utilising service planning as an agent to facilitate this process. However, the Directors of the Nursing of the Planning and Development Units viewed the function of determining skill mix for acute hospitals as being within the remit of the Directors of Nursing. The Directors of the Nursing, Planning and Development Units viewed their role as supportive to the Directors of Nursing in this function. Directors of Nursing, Planning and Development Units all employed workforce planners who were available to work with the Directors of Nursing from acute hospitals and their teams in determining nursing skill mix. However, it seems that this is not happening in practice. This is perhaps because Directors of Nursing do not perceive a relevant role for the Planning and Development Units in determining skill mix with the director's own hospital. Conversely, Directors of Nursing from acute general hospitals discussed the main process of determining nursing skill mix as collaboration within their own nursing team locally and not necessarily collaboration with policy makers.

There is no uniformity between the various hospitals involved in the research regarding the internal mechanisms used to determine nursing skill mix; i.e. some used service planning, others used discussion with general managers. Regardless of whether or not there is a need for absolute uniformity to determine skill mix, there is a need to agree which approaches are more effective and to document the supporting evidence of the approaches agreed. Also, the limitations of this process support the earlier findings in that Directors of Nursing do not have (or have minimal input) at a strategic level with senior policy makers from different agencies, who have a key role in influencing nursing skill mix.

Notably, all Assistant Directors of Nursing considered collaboration amongst stakeholders, such as local nursing staff, directors themselves, key medical

consultants and union representatives, as critical to the process. Assistant Directors of Nursing also agreed with the views of the Directors of Nursing by suggesting that service planning was an essential mechanism to use in determining nursing skill mix. The annual Service Plan was viewed as a key document which involved a number of key stakeholders in its development, but allowed nurses an input at corporate level to discuss their nursing skill mix needs locally**.** The findings of this study strongly support service planning and corporate planning as key tools to assist hospital staff establish nursing skill mix requirements locally and corporately. This is reflected within Irish workforce planning literature, notably the study conducted by Flynn (2003).

The findings from this study also show that the CNM2s also concurred with Assistant Directors of Nursing in highlighting the importance of local discussion with staff as being critical to the process of determining nursing skill mix. Service planning was seen as a key instrument or tool to assist this process. CNM2s commented that engaging in local discussion and collaboration is limited in yielding satisfactory outcomes. The managers pointed out that there is a ceiling on recruiting staff; therefore, there was very little point in becoming involved in the process and raising staff's expectations.

The findings illustrate that the CNM2s viewed staff ceilings as a barrier to engaging in meaningful discussion about skill mix. Nonetheless, CNM2s viewed service planning and skill mix determination methods as providing an evidence base upon which additional staff could be recruited. Similarly, CNM2s did not consider skill mix determination methods as a means of evaluating their current staffing levels in acute general hospitals. Many of these issues raised have implications for workplace design and collaboration. Returning to the issue of workspace design, collaboration (where it exists) takes place everywhere, including the work-floor. Collaboration can extend from highly formalised regular meetings (and other forms of collaboration including emails and phone calls) and can include internal and external collaboration. It can also include the briefest chat as colleagues bump into each other in a well-designed workspace where essential pieces of the jigsaw of patient care or efficient management slots into place with a satisfying certainty.

There is lack of collaboration between stakeholders in determining nursing skill mix. The findings revealed that there are no agreed methods for determining skill mix between the stakeholders. All participants in the study reported that communication and collaboration is inadequate in agreeing a mechanism for determining nursing skill mix. The participants also perceive other issues such as the impact of employment ceilings and the lack of input from workforce planners as barriers to full collaborative communication practices. Furthermore, the findings challenge the capacity of nurse managers to fulfil their strategic role in the absence of them having a real influence on skill mix at national and local level. However, service planning was seen as a constructive method in communication between key stakeholders involved in determining nursing skill mix.

7.5 Conclusion

The diverse influences, role ambiguities and inconsistencies in approaches to skill mix uncovered in this study all reflect the gaps and tensions between macro/micro, objective-subjective perspectives on skill mix in contemporary nursing practice in acute care. While the literature proposes objective methods and approaches, everyday complexities in healthcare mean that this is an imprecise area of workforce planning and healthcare provision in reality. Though objective methods are lauded, they are rarely implemented systematically. There is a disconnect between those who manage care at the ward level, those who manage hospitals and those who direct local and national policy about who should influence and control skill mix decisions, and little evidence of collaboration. Building on the themes discussed above, key conclusions of this study and recommendations are offered in the next chapter.

Chapter 8
Conclusions and Recommendations

It's at the edges that interesting things happen. (Evans 1973, p.181)

8.1 Introduction

By uncovering the rhetoric of skill mix, this study has highlighted gaps in understanding, the diversity of perspectives, the inconsistencies in the use of existing methods, and the confusions and inconsistencies surrounding skill mix terminology. By showing the diversity of approaches to and understandings of skill mix, this study points to the need for a systematic approach to determining nursing skill mix in Ireland.

This study offers new insights into how nursing skill mix is understood and determined in acute setting in Ireland. Contemporary political, economic, demographic and global developments are profoundly shaping nursing practices and challenging traditional models of nursing, skill mix and workload measurement systems in acute general hospitals. The absence of clearer understanding and systems and methods for determining nursing skill mix in Ireland has implications for the empirical measurement of the quality of nursing care in acute hospitals. There is no system or regulatory provision in Ireland establishing staffing levels for specific nurse-patient dependency ratios and the consequent skill mix required to achieve quality of nursing care. This raises significant challenges for the nursing profession, for policy makers and for the strategic development and management of healthcare in Ireland. With greater awareness, understanding and recognition of the need to optimise nursing skill mix to quality healthcare and patient outcomes, the nursing profession can greatly enhance and contribute to the current and impending challenges and fully contribute to the development of the acute hospital system in the future. This concluding chapter summarises the key findings of this study by drawing on macro-micro and subjective-objective continuums highlighted in Ritzer's (2008) integrative theory of social analysis. Areas requiring future research are highlighted. Suggestions for future research are made while acknowledging the study's limitations.

This study is unique in both an Irish and an international context. It is unique in Ireland because it is the first study of its kind to be carried out. The study is also unique because of the comprehensive and far-reaching approach taken. The fact that 54 participants were interviewed, including policymakers, Directors of Nursing and their management and clinical teams, as well as Directors of Nursing working in planning and development units, is evidence of a detailed and comprehensive approach taken. This provides an unparalleled evidence-base that is not only relevant for future of research and practice on nursing skill mix in Ireland, but also internationally.

The theoretical framework used, based on Ritzer's integrative theory of social analysis, has provided the study with a macro-micro framework allowing for a comprehensive, and to date unique, approach to researching nursing skill mix in Ireland and internationally. This is the first time that an integrative approach has been applied to research on nursing skill mix. As a result, it offers a framework of analysis that can be applicable and relevant to healthcare settings in Ireland and other countries. This study has shown the importance of researching nursing skill mix in a multi-faceted way so that nursing skill mix takes account of nursing roles and professional development and clinical governance in the context of changes in the healthcare environment arising from healthcare reforms, organisational and policy changes, skills determination and workforce planning, and changes in healthcare needs arising from demographic and technological changes. Moreover, a comprehensive and integrated approach is more likely to lead to clearer definitions of nursing skill mix, informed and evidenced-based approaches to determining nursing skill mix and ultimately to more realistic outcomes in nursing skill mix.

The micro level analysis has encompassed the objective and subjective perspectives of nursing staff working in hospitals at all levels, while the macro level analysis draws on the objective and subjective perspectives of policy makers and policy organisations who are responsible for driving healthcare policy. Drawing on evidence from organisation role theory and from the literature on nursing skill mix it is also evident that nursing skill mix is influenced by both objective and subjective factors and perceptions.

Acknowledgement of these processes in determining nursing skill mix is, therefore, of great importance to the findings from the research and to the conclusion that all stakeholders need to be empowered and involved in determining nursing skill mix in order for it to have outcomes that contribute to improved quality of care. Moreover, the findings from the research carried out for this thesis are that there can be different perspectives, knowledge and understandings of nursing skill mix at the micro and macro level. This is an important finding from the research and points to the importance of (1) nursing skill mix being approached in an integrated and comprehensive way and (2) that nursing staff, managers and policy makers make informed decisions about nursing skill mix based on a shared and informed understanding of the contextual issues that impact on nursing skill mix.

8.2 Key Findings

This research reveals that there is an objective-subjective disconnect between how nursing skill mix is romanticised as a solution to contemporary nursing and healthcare problems without taking account of the complex reality of ambiguous nursing roles and the practical everyday constraints on nursing managers, across the macro-micro levels of the system. Furthermore managers lack power to influence core nursing skill mix and staffing requirements.

The process to determine nursing skill mix is a highly complex one which is presented as an objective process, but many subjective elements to the process were identified in this study. In order to determine skill mix it is critical to have a clear understanding and meaning of the term. Skill mix needs to be clearly understood from both a theoretical and realistic perspective so that policy makers and nurse managers can adopt pragmatic approaches which must take into account, of the realities of their priorities and resources when determining nursing skill mix for acute hospitals. Staffing levels are perceived as easier to define and determine than skill mix. However rigorous methods are not used in this area either, and there are risks in fixing such levels.

Optimising nursing skill mix should provide responsive and flexible solutions to healthcare and nursing needs, but it can only do so if it is understood clearly and

its assumptions and requirements are articulated. For example ‘custom and practice’ is more influential that the available systematic methods in determining skill mix and this needs to be realised. Professional judgement is not valued within the system, linked in part with the fact that it is difficult for nurses themselves to articulate the meaning of this and its value.

Using a framework that draws on macro-micro and objective-subjective continuums, the key conclusions are:

- that there is a ‘subjective-objective paradox’ between the complexity of everyday clinical practice settings and the objective methods proposed to determine skill mix.
- that there is a ‘macro-micro disconnect’ between the perspectives of policy makers and nurse managers about skill mix.

It is believed that a framework “clarifies, provides order, and systematically intertwines components of a phenomenon” (Hamric, Spross, and Hanson 1996, p23). Therefore, a theoretical framework is provided within which conclusions are drawn from the key findings of this study. Ritzer (2008) attempted to develop what he calls an integrative paradigm that helps to reconcile the micro and the macro perspectives on social analysis. He asserts that the approaches to the study of the social world can be categorised along two cross cutting continuum. The first is the macroscopic – microscopic continuum and the second is an objective – subjective continuum as described in Figure 10. The key to this integrated framework is the notion of levels of social analysis (Ritzer 2003).

Within this framework achieving effective nursing skill mix in acute hospitals in Ireland nursing skill mix are examined through the integration of ideas from multiple levels of analysis (micro and macro levels, nurse managers and policy makers) that offer a more complete understanding of the relationship between the individuals working in acute hospital care in how nursing skill mix is understood and determined in acute general hospitals. This integrative approach is particularly useful for interpreting this study’s findings, because it shows movement along the continuum between various stakeholders involved in the process of determining nursing skill mix. The subjective – objective paradox

relates to role confusion and ambiguity of senior staff nurse and clinical nurse managers. Broader influences also contribute to how skill mix is determined such as the lack of inconsistent understanding of the term skill mix, the lack of defined staff –patient ratios and the frequency of ward rounds in acute hospital care by medical doctors. Across the macro – micro continuum, the findings suggest that the lack of an agreed national policy on skill mix, the absence of a common standardised approach to determining skill mix, the influence of both financial and human resources and the ineffective collaboration between key stakeholders contribute to how nursing skill mix is currently determined.

8.2.1 The Subjective-Objective Paradox

Many findings of this study reflect a gap between the rhetoric of objectivity of skill mix determination and the subjective and messier realities inherent in everyday practice in healthcare. At a basic level there is role confusion within acute hospitals in Ireland. One of the greatest challenges that this study identified is the need to clarify particular nursing roles in acute general hospital settings as there was a perceived lack of clarity amongst the main stakeholders (in acute general hospitals and policy makers) about various nursing roles. The study outlined that identifying and maintaining an appropriate nursing skill mix was perceived as a major challenge experienced by nurses and policy makers at every level in all settings because of the lack of understanding of the role of the nurse within particular grades. This lack of understanding exists at macro and micro levels of the healthcare environment, resulting in a lack of clarity of nursing roles at policy and political levels, as well as at the level of the hospital. This concern has been fuelled by the confusion in determining roles of nurses and roles of nursing support staff in acute general hospitals. The study points to the fact that the extent and nature of role confusion in Ireland is related to the broad policy context and changes in nursing structures which have emerged in recent years. Role ambiguity and confusion appears to be compounded by the difficulty with which qualified nurses and nursing support staff had in separating their roles from each other.

Findings from participants interviewed in this study demonstrated a perception that since the Commission on Nursing Report (1998) there has been ambiguity,

confusion and debate of the legitimate roles of qualified nurses working in acute general hospitals. This has been exacerbated in recent years owing to the professionalisation of nursing, and the creation and emergence of new nursing roles. Contemporary nursing has too been challenged by ambivalence concerning the justifiable boundaries of nursing responsibilities and thus contributed to the lack of clarity surrounding the role of qualified nurses in general hospitals. This history has led to the emergence of a lack of clarity about how nursing as a profession positions itself and how it defines its roles. This could result in further erosion of the role of the nurse if nursing roles are not defined effectively in the future.

The lack of role clarity may suggest the complexity of "nursing" itself in the delivery of safe, quality, patient-centred nursing outcomes and the challenge surrounding "what" and "how" specific nursing care can be delegated to other members of the nursing team. This is crucial as changes in health service policy and in the subsequent developing role of the nursing profession evolve in Ireland. This is significantly influenced by the role of CNM2s whose role should be pivotal to supporting changes to improve the quality and effectiveness of patient care. This will be crucial to ensuring that there is no role conflict and confusion resulting in unambiguous role fulfillment and identity.

In addition to the broad policy context and changes in nursing roles and structure, the lack of education and delegation has contributed to the ambiguity of clarity surrounding the role of the nurse and the resulting skill mix requirements. Appropriate education is a crucial component to the successful emergence of the role of the nurse. Critically, An Bord Altranais needs to consider incorporating these issues into the initial undergraduate nurse preparation education and training, as the strategies in which nurses are prepared educationally may influence nursing roles and function in the future. This would mean that students would be introduced to a range of nursing competencies which influence patient activities and assist in the clarification of nursing roles. Achieving and maintaining this clarity needs to be pursued after graduation and continuously supported by An Bord Altranais and the nursing profession. This study demonstrates that appropriate initial and continuing education programmes

incorporating both practice and theory, should therefore underpin all nursing roles in Ireland.

While a definition of nursing skill mix is not agreed, it may not be appropriate to be seeking a universal definition given the differing contexts and diverse settings in which skill mix takes place. This suggests that there may need to be more attention given to addressing skill mix within the context of the broader contextual challenges underpinning skill mix, for example, by taking account of the professional, economic, demographic, organisational and clinical factors that impact on the determination of skill mix and workforce planning in acute hospital settings. In practice external and internal influences on nursing – in the vacuous paradigm created by the absence of a shared understanding of nursing skill mix – means (1) that nursing skill mix is not implemented or (2) where implemented it has little direct impact on better outcomes for patients. This is because most implementations involve professional judgement only and it is impossible to disentangle the effects of professional judgement on skill mix from professional judgement on all the other aspects of nursing care and management. As a result this requires a better understanding of the diverse range of influences which impinge on how nursing skill mix is determined in acute general hospitals in Ireland. This includes developing a better understanding and assessment of the influences relating to challenges in (a) clearly defining nursing skill mix and (b) internal and external influences to the nursing profession.

The study has shown that there is a lack of a consistent understanding of the term nursing skill mix and nurse staffing levels amongst key stakeholders currently involved in determining staffing requirements for acute hospitals, these terms are used in a self-evident, objective sense. These findings were echoed in both qualitative and quantitative data. The divergent views and confusions relating to the true meaning of nursing skill mix is startling. The implication of this is that it will inevitably lead to a variety of approaches being inappropriately used to establish nursing skill mix requirements for acute general hospitals in Ireland, with major consequences for staff-patient ratios, patient care and patient outcomes. The lack of consensus in defining nursing skill mix is a particular challenge given the increasing complexity of patient care and the effective

utilisation of nursing personnel. As a result there will be significant challenges for healthcare managers in the future in determining appropriate nursing skill mix requirements. The findings indicate that it is imperative that all nurse policy and nurse managers become more familiar with the meaning and scope of nursing skill mix and participate in discussions about the determination of skill mix, if effective and meaningful approaches are to be used in the future. This will be advantageous if nursing policy makers in particular wish to support adjustments to nursing skill mix and to achieve the most flexible and cost effective utilisation of nursing personnel in acute general hospitals.

The determination of nursing skill mix is undeniably complex but if internal and external influences are not addressed the process of determining skill mix will be compromised. It is clear from the findings that there will be a need in the future to develop more consistent approaches to determining nursing skill mix in the acute hospital sector that take into account these internal and external factors. The study concluded that skill mix is an intricate subject and there are many competing, often subjective factors that determine nursing skill mix requirements for acute hospitals, despite the stated objectivity of approaches.

8.2.2 The macro-micro disconnect between perspectives on skill mix

One of the strengths of this study is that it sought the perspectives from "board to ward", or from policy making level to clinical bedside. The findings demonstrated a strong divergence between policy makers and nursing managers at different levels about how nursing skill mix is determined. Policy makers did not draw a relationship between quality of care and skill mix determination. However, policy makers saw a strong relationship between the influences of trade unions on the determination of nursing skill mix whereas other grades did not.

The absence of an agreed national policy on nursing skill mix led participants in the study to report a lack of confidence in the various approaches used to determine nursing skill mix requirements for acute general hospitals nationally. Participants in this study clearly outlined that future approaches to determining

nursing skill mix will be influenced by developments in government policy, nursing and the HSE.

There is an absence of a common standardised approach or methodology for the determination of nursing skill mix in Ireland, or indeed one that Ireland can draw on from other countries. This is an area that certainly warrants further research. Nonetheless, there is an eagerness by a number of participants to use a methodology such as *Criteria for Care* to assist in the determination of nursing skill mix requirements for acute hospitals and at the same time to make comparisons with other acute hospitals nationally if implemented successfully.

There is still an opportunity for debate although this has narrowed significantly in the light of current economic imperatives. This may narrow the scope further regarding whether or not absolute uniformity is a prerequisite to agreeing an approach to determining skill mix. While there needs to be commonality in the methods used in determining skill mix, there is also a need to allow for enough flexibility to provide for local interpretation and local anomalies in managing the nursing resource within acute general hospitals. That is what the term 'scaleable' means. This research identified that only one hospital is currently operating an empirical skill mix system. It is not surprising, therefore, that there is no national mechanism for reviewing or evaluating skill mix. Professional judgment and benchmarking are widely used. Benchmarking tends to take place as part of the annual service planning, or prompted by it, whereas professional judgement is an on-going process used frequently to provide safe levels of patient care. These approaches have not, to date, been researched or evaluated in Ireland. The study did find an acknowledgement that a structured approach of this nature could contribute to developing a workable system for determining nursing skill mix in the future. This emphasised that it is essential that a distinction must be drawn between the pragmatic approach and the practical approach to determining skill mix adopted by many employing organisations. This presents a clear direction for moving forward in a manner acceptable to the main stakeholders who participated in this study. This research, although overdue, is outside the scope of this study.

Achieving strategic decisions that ensure beneficial integrative links between internal and external environments of acute general hospitals is a great challenge. Hospitals must adopt specific strategies to anticipate and respond appropriately to changes. This is significant given that in Ireland nursing accounts for over 35% of the healthcare workforce and a similar percentage of the national healthcare budget for acute general hospitals. The fourth key finding relates to the lack of collaboration and agreement between key stakeholders in determining skill mix. The study highlighted the significant lack of collaboration between stakeholders in this regard. Effective collaboration is a means by which organisations can achieve their desired levels of performance. This study found that there is a need to explore and describe the relationship between the nursing profession and policy makers, with particular reference to the individual role of all nurses in the field of effective collaboration. This lack of collaboration between stakeholders is perceived as a weakness. All participants reported that communication and collaboration is inadequate in agreeing a process for determining nursing skill mix.

The participants also perceived other issues that challenge effective collaboration, such as the impact of employment ceilings and the lack of input from workforce planners, as barriers to full collaborative communication practices. Furthermore, the findings challenge the capacity of nurse managers to fulfil their strategic role in the absence of having a real influence on skill mix at national and local level. Directors of Nursing, through their nursing teams, must be involved in the strategic management of their hospitals in order to keep abreast of different trends and shifts in healthcare, while also finding a good balance between effective nursing and business administration. Involving middle managers in strategic planning helps managers apply the process to healthcare and in nursing administration. This could present a very useful process for moving the skill mix agenda forward in Ireland. In Ireland, Carney (2006) concluded that strong organisational culture predicted strategic involvement, and supported the importance of middle managers remaining strategically involved in the development of new organisational strategic initiatives. The importance of strategic involvement informed the findings of this study to the extent that some of the participants of the study reported some inclusion in strategic planning,

such as service planning, which actively assists in the involvement in skill mix determination. Service planning which is commonly used between policy makers and nurse managers was seen as a potentially constructive method to assist communication between key stakeholders involved in determining nursing skill mix. But the study findings do challenge the capacity of Nurse Managers to fulfil their strategic role in the absence of them having a real influence on skill mix at national and local level.

Determining nursing skill mix will continue to present a major challenge to health professionals, managers and policy makers. Skill mix is a complex subject to many competing influencing factors. There is a need for greater clarity surrounding the identification of the key influences and the development of supporting evidence to illustrate how each factor influences the determination of skill mix. Also, more robust guidelines based on sound evaluation of existing skill mix patterns and better dissemination of good practice are needed to expand the evidence base and support informed decision-making in this area. In presenting the various approaches used to determine nursing skill mix forms the basis for a better understanding of how nursing skill mix can be applied in Ireland. Increasing the understanding of nursing skill mix should have a positive impact on nursing workload management and ultimately on the provision of patient care.

8.2.3 Summary

The key findings from the study are that nursing skill mix determination is a relatively under-developed area of workforce planning and strategic management in Ireland. This is underscored by the different stakeholders who participated in the study, who expressed differing perceptions on how nursing skill mix can be developed in the future. In assessing different approaches and methods that have been tested, it appears that there is little agreement about what represents a best practice approach to nursing skill mix. This arises because of the myriad of influences and the different national, cultural, funding and other contexts that underpin nursing skill mix in countries with diverse health care systems. Role confusion seriously undermines the impact of effective forms and implementation of nursing skill mix, particularly between different nursing

grades, HCAs, and in some cases other health care professionals. The literature and evidence on nursing skill mix also shows considerable inconsistency of approaches, which are in some cases implemented with little evaluation of their impact and effectiveness. Finally, and with particular implications for Ireland is the lack of collaboration between the nursing profession and policy makers, which is crucial to the effective assessment and implementation of skill mix requirements in acute hospitals in Ireland.

This study shows that there is a critical need for transparency and consistency in relation to determining skill mix across acute general hospitals in Ireland. This is necessary in guaranteeing an efficient and effective use of the nursing resource, avoiding inefficiencies and risks such as unsafe patient care, addressing overstaffing and understaffing, and avoiding confrontations in Labour Relations Court.

8.3 Limitations of Study

This study has a number of limitations which have been highlighted throughout this thesis.

Data collection for this study was undertaken during 2005 and 2006. While this thesis is presented a number of years after that, there have been no major policy or practice changes in this area, to my knowledge. This is based on my continuous engagement with these issues within my role as Director of the Office for Nursing and Midwifery Services of the HSE. Recent economic constraints and health reform developments have in fact made the actions arising from the recommendations of this study more pertinent.

The study sample was 54 participants. The study sample was representative of the different stakeholders, notably Clinical Nurse Managers, Directors of Nursing and policy makers, who have a potential role to play in skill mix in large acute hospital in Ireland. Participants also represent a good sample of both local, regional and national stakeholders, who reflect the types of roles and functions required for implementing skill mix at all levels and in relation to how policy and practice interact in the development of skill mix. Overall, the sample was found

to be both representative of these different stakeholders and was sufficiently robust to draw a diversity of results of the perspectives and understandings of these different groups. The study related to Bank 1 hospitals and the generalisability of the findings for other hospitals in acute care cannot be claimed and further research on this is recommended below.

My former role as a Director of Nursing and Midwifery may have influenced the participants in their interactions with me. This influence could have manifested itself as "proper lining" (Glaser, 2003, p.59), where the participants tell me what they think I want to hear. I attempted to overcome this by continually stressing that the interview was confidential and that I was in a researcher role, that only I would be transcribing it, that the tapes would be destroyed after the study was complete, and that no identifying quotes would be used in the final thesis.

Quantitative data were collected and presented alongside qualitative data in the findings chapter of this thesis. All findings were integrated in the discussion chapter. The data collection method used was the semi-structured interview and the depth of data gathered sing that method, drawing on participants considerable experiences in nursing and acute health care, justified its use. This is not a mixed methods study as the primary aim of the interviews was to explore skill mix issues with participants. In this study, some closed questions were also asked of participants in order to verify or refute what the literature was saying about skill mix methods. While some argue that quantitative data differ fundamentally and reflect a different philosophical position, in this study, in all cases participants were asked to clarify and expand on the closed questions asked. Therefore, given the large sample size, as part of a multi-phase study, they permit measurable patterns of responses to be displayed and complement the rich qualitative data gathered.

8.4 Recommendations

The findings of this study have implications for national nursing policy makers, nurse managers and their staff, nursing practice development, education and research.

8.4.1 Nursing policy makers

There is an absence of a common standardised approach or methodology for the determination of nursing skill mix in Ireland. It is recommended that the implementation of a common standardised method for determining skill mix be examined, with guidance that provides consistency across the policy making and practical implementation of skill mix at ward level such as Criteria for Care. Though there is support for Criteria for Care as a methodology to determine skill mix, this was implemented rigorously in only one acute general hospital which included medical and surgical wards. This is a very critical finding as the majority of key stakeholders outlined the benefits of using a workload method tool such as Criteria for Care, and were concerned about using an intuitive skill (professional judgement) as opposed to a method with an evidence base.

Linking policy with practice will be crucial to this and the process needs to provide 'top down' and 'bottom up' approaches to ensure that the methodology developed is evidence based and realistic in terms of its implementation. It is recommended that HSE evaluate the results of Criteria for Care in the hospital where it is used and report on its efficacy and whether it should form the framework for a national nursing skill mix system. In this context it would be useful for the HSE Human Resources in partnership with the Office for Nursing and Midwifery Director HSE to examine the feasibility of standardising such an approach with regard to determining nursing skill mix in acute hospitals nationally during 2012. This would particularly be beneficial for nursing managers of acute general hospitals and policy makers. Based on this study the core components required to understand nursing skill mix are the lack of role clarity and inter-professional boundaries, the multiple influences effecting the determination of nursing skill mix, the lack of inconsistent understanding of the term skill mix, the various approaches that determine skill mix decisions and the ineffective collaboration between all key stakeholders involved in determining nursing skill mix. This will be brought to the Office of the Nursing and Midwifery Services Director Health Service executive for consultation and agreement by February, 2012.

It is recommended that nursing appointments should be filled solely by candidates with the skills, qualifications and competences needed for the vacancy being filled. Nurses and policy makers alike identified that there were concerns around the actual process of recruiting and implementation of CNM2. There is clearly a need for Human Resources HSE nationally and the voluntary organisations to follow correct policy and procedure in filling and to ensure that promotional grades are afforded on professional suitability and competence rather than on seniority by employing agencies.

The role of the senior staff nurse is recommended for review. There is an extra nursing grade senior staff nurse within the nursing profession which should enrich nursing skill mix within acute general hospitals, but may not in practice. Senior policy makers at national and regional levels and nurse managers at all levels can assist in reviewing and leading the role of the senior staff nurse position in terms of clarity and effectiveness in their contribution to determining nursing skill mix. The key objective would be to propose and implement a collaborative inquiry approach to identify where the senior staff nurse role is most effective and disseminate it nationwide.

It is recommended that the new national nursing skill mix system include rigorous patient care standards. Historical factors influence how nursing requirements were originally determined in acute general hospitals. The participants of this study and the international research indicate that nursing skill mix should be determined by adopting quality patient care needs and the nurse's professional views and judgements. These standards should be set and implemented by HIQA. The ongoing development, by HIQA, of *National Standards for Safer Better Healthcare*, will be relevant in this context in providing the basis for quality and safety throughout the healthcare system.

A review of the scale, cost and effectiveness of third party intervention as a change agent is warranted by the findings. The third party intervention approach was identified as a supporting process to facilitate the determination of nursing skill mix requirements for an acute hospital in Ireland. This may be a reflection of the centralised power of the unions at national level. The effect of this process

on acute hospitals services and the nursing profession warrants identification by the HSE by conducting an audit of the cost and effectiveness nationally of third party interventions and their impact in the context of how nursing skill mix is effectively determined.

A review of Clinical Nurse Managers and HCA nursing roles by Directors of Nursing is recommended. Essential to the process of determining nursing skill mix is ensuring clear and unambiguous roles and responsibilities of CNM1s, CNM2's, CNM3s and HCAs. In order to overcome role ambiguity and the consequent likelihood of negative responses to the roles of Clinical Nurse Managers in the future, clear role definitions and objectives should be developed and communicated to relevant staff groups. These definitions and role objectives should be updated as part of the review.

It is recommended that An Bord Altranais specify qualifications, education, training, and retraining appropriate to each nursing grade and role. This approach will enhance role clarity of nurses. This would mean that early on in an education programme nurses would be introduced to those nursing competencies which influence activities associated with nurse roles in acute general hospitals. This will subsequently assist in the clarification of nursing roles in the future.

In terms of post-registration education, achieving and maintaining clarity regarding the nursing role needs to be pursued after graduation and continuously supported by adjusting the role preferences of individuals to their existing or available roles. It is recommended that the Office of the Nursing and Midwifery Services Directorate HSE should implement, monitor and evaluate this.

8.4.2 Nursing educators

Appropriate initial and continuing education and training programmes are recommended to incorporate both practice and theory for the development of all nursing roles in Ireland, so that they respond effectively to new challenges and risks. Changes in skill mix recommended here should be compatible with the professional and statutory responsibilities of nurses and supported by the assurance of competencies, skills and knowledge of the individual nurse rather

than their job grade. This is particularly aimed at (1) nurses who require skills updating in line with the nursing activities required by the grade they are working in, and (2) nurses who are covering a wide range of functional roles without the skills, experience, or qualifications for all these nursing activities. It is recommended that An Bord Altranais implement this recommendation during 2012.

A review of delegation to HCAs nationally by Office of the Nursing and Midwifery Services Director HSE in 2012 is recommended. The nursing profession must define the appropriate educational preparation and role of any group providing services within the scope of nursing practice. This process may help to facilitate delegation of nursing tasks to HCAs in the future.

A review, by a working group of nursing educators, of the training, education and support for CNM2s is recommended. Participants spoke of specific concerns related to the role of CNM2s. In particular, they were concerned about the challenge in combining both managerial and clinical functions and the consequent inability to delegate to other members of the nursing team. In order to address these challenges training and education supported by continual professional management development should be provided to support the operational role of CNM2s in practice in acute general hospitals.

8.4.3 Nursing practice development staff

To support the development of effective nursing skill mix in the future it is recommended that influencing factors highlighted in this study be explored by Directors of Nursing through their nursing practice development teams. In practice in the nursing profession, four activities require specific monitoring; how nursing care is planned; assurance of competence and education of staff; safe and patient-centred nursing delegation, and measurement of quality patient care.

It is recommended that the Office of the Nursing and Midwifery Services Director HSE report to the Chief Nursing Officer, Department of Health, on whether professional judgement and benchmarking could be used as effective

nursing skill mix methods. There is a lack of confidence in the various approaches used to determine nursing skill mix requirements for acute general hospitals. Nationally, however, professional judgment and benchmarking were viewed as two approaches that could be used to determine nursing skill mix in general hospitals. These emerged as the most common approaches currently used to determine skill mix. If accepted by the HSE, a specific focus on professional judgement and benchmarking as methods to determine nursing skill mix needs to be recognised by policy makers and nurse managers and their staff (alike).

A review of the best methods of collaboration between policy makers and senior nurse managers and their teams, to be conducted in 2012, is recommended. This is particularly important as there is little uniformity between the various hospitals and policy makers involved in the collaboration process of determining nursing skill mix. Service planning is a key tool to assist hospital staff to establish, manage, monitor and evaluate nursing skill mix locally and corporately to assist in the collaboration process. But, clear, unambiguous communication processes between policy makers and nurse managers and their staff need to be clearly identified and developed.

8.5 Direction of Future Research

This study has highlighted a number of areas where further research is required, particularly as this is an under-developed area for policy makers in Ireland. One particular area that merits further research is in relation to delegation of nursing responsibilities. Many participants expressed the importance of "delegation" as a key mechanism to support and enhance the roles of nurses working in acute general hospitals. Also, the significance of educating qualified nursing staff to delegate appropriately tasks to other nursing personnel effectively. This was perceived as paramount in clarifying nursing roles and processes for determining nursing skill mix. Delegation could occur as a result of nurses abandoning some of their existing role preferences in accordance with the degree of their actual involvement in patient care. This view needs to be supported by further research and continuous evaluation of nursing roles in an Irish context by the Department of Health in conjunction with the HSE.

It would be beneficial for this study to be expanded in other acute general hospitals in Ireland, where similar challenges exist relating to how nursing skill mix is determined, and to explore whether the findings here are supported by evidence in similar contexts. The outcomes of such studies might also be of help in deliberating the reasons underpinning how nursing skill mix in Ireland is currently determined. This knowledge should provide a stronger evidence base on which to inform national and international policy on skill mix and maximize the contribution of nurses to the strategic and operational development of the healthcare system.

8.6 Conclusion

In conclusion this study uncovers a wide range of challenges associated with determining nursing skill mix in acute general hospitals in Ireland. It highlights the gap between the rhetoric of proposing changing to skill mix as a self-evident solution to staffing requirements in acute hospitals, without due consideration of the subjective and complex healthcare and nursing milieu. The study provides a greater understanding of the challenges that need to be addressed in relation to nursing skill mix, as well as the consultation processes, data and technical requirements, and the training and expertise required to develop appropriate methods and consistent approaches to skill mix. This research will inform the future direction of policies, processes and methods that contribute to effective determination of nursing skill mix. The study highlights crucially the need for external policy makers and internal managers and their staff to work collaboratively in opening up opportunities for future effective nursing skill mix to support quality patient care in Ireland. This marks a significant step forward for nursing skill mix in Ireland and provides an evidence base that will inform future developments. This is particularly important both in relation to the current challenges facing the Irish healthcare system and in this context how nursing skill mix can be an effective tool for improving the quality of healthcare services, and engaging the nursing profession and policy makers in an active partnership for implementing skill mix.

By uncovering the disconnect between the perception and practices of nursing skill mix of policy makers and nurse managers the study has highlighted gaps in

understanding and misunderstandings, the diversity of perspectives, the inconsistency of existing methods, and the confusions and inconsistencies surrounding the term skill. By showing the diversity of approaches to and understandings of skill mix, this study is able to point to the need for a systematic approach to determining and implementing skill mix in Ireland. This represents a unique evidence base from which to proceed. Critical to this development is the need to address role confusion, to improve awareness of how skill mix can be determined and implemented and to consult with and draw on the expertise and knowledge of nursing roles within the nursing profession. The study has shown that not only is skill mix a critical area for development in policy and within the nursing profession, but that it can be a valuable tool for improved workforce planning, more systematic approaches to policy making, to implementing key healthcare reforms, to overcoming role confusions, and to the need for a more systematic approach to nursing skills development. Finally, by linking policy making to practice on the ground, and engaging in wide-ranging consultations that draw on the full range of expertise within nursing, there is significant scope for the study to impact on the future nursing of skill mix in Ireland.

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Appendices

Appendix A: Letter to policymakers to invite to participate in the study

Address

Date

Dear

I am presently undertaking my Ph.D. study at

The aim of this study is:

To explore nursing skill mix in acute hospitals in Ireland.

As part of my research I would like to request permission to interview you to seek your views on the above topic. All information from you will remain confidential and information with regard to the outcome of this study will be made available to you in the future.

I will make an appointment with you at your convenience to follow up this letter and I would be grateful for your support and participation

Thanking You

Yours Sincerely

Michael Shannon

Appendix B: Letter to Directors of Nursing/Assistant Directors of Nursing and Clinical Nurse Managers 2 to invite to participate in the study

Address
Date

Dear

I am presently undertaking my Ph.D. study at ……..The aim of this study is:

To explore nursing skill mix in acute hospitals in Ireland.

As part of my research I would like to interview the following people if possible to seek views on the above topic:

- Director of Nursing
- Assistant Directors of Nursing responsible for medical and surgical wards
- Two Clinical Nurse Manager 2's one from a medical ward and one from a surgical ward

All information from the participants will remain confidential and information with regard to the outcome of this study will be made available to you in the future.

I will make an appointment with you at your convenience to follow up this letter and I would be grateful for your support.

Thanking You

Yours Sincerely
Michael Shannon

Appendix C: Sample Semi-Structured Interview Guide

Semi-structured interview guide: Clinical Nurse Managers 2

1. **Understanding of terms**

   In relation to how nursing requirements are determined for your ward, please outline your understanding of the following terms: nursing skill mix; nurse staffing levels.

2. **Nursing roles**

   Do you feel there is clarity between the various roles and responsibilities of nurses and nursing support staff working in your ward?
   How do you see the future roles and skills of nurses working in your ward?
   How will these developments affect skills of other staff working in your ward in the future?

3. **Responsibility for skill mix**

   Who should be involved in determining nursing skill mix requirements for your ward?

	Yes	No
(a) Department of Health		
(b) Health Service Executive		
(c) Unions		
(d) Chief Executive Officer acute hospital		
(e) Director of Nursing acute hospital		
(f) Director of Nursing Planning and Development Unit		
(g) Assistant Director of Nursing acute hospital		
(h) Clinical Nurse Managers acute hospital		
(i) Others, please outline		

   Please explain why?
   How do you collaborate with individuals who have a lead responsibility for determining staffing requirements for your ward?

4. **Factors influencing skill mix**

   What are the most influential factors in determining nursing skill mix for your ward? Please rank in order of merit of importance:

Factors	Rank Order
(a) Budget	
(b) Staff experience	
(c) Patient outcomes	
(d) Activity levels	
(e) Patient dependency	
(f) Other please explain	

   Please explain why?

5. Principles underlying skill mix determination

What principles do you use to determine nursing skill mix requirements for your ward?

Principles	Yes	No
(a) Custom and practice		
(b) National guidelines		
(c) Professional judgement		
(d) Criteria for care		
(e) Monitor		
(f) Teamwork		
(g) GRASP		
(h) Benchmarking as a standard		
(i) Comparison data from other hospitals		
(j) Others		

Why do you choose these approaches?
Please outline the strengths of these approaches
Please outline the weaknesses of these approaches?

6. Guidelines for skill mix determination

How often do you review guidelines on nursing skill mix requirements for your ward?

What indicators do you use to evaluate the effectiveness of your guidelines?

Indicators	Yes	No
(a) Value for money		
(b) Patient satisfaction		
(c) Patient safety		
(d) Patient recovery		
(e) Activity levels		
(f) Case mix		
(g) National health strategy		
(i) Other please explain		

Please explain why you choose these indicators

For the future what guidelines do you think will ensure the provision of best practice for determining nursing skill mix requirements for your ward?

7. Staffing and skill levels

Do you recommend fixed staffing ratios for nurse staffing levels for your ward? If yes briefly explain why you make these recommendations?
Ideally what percentage of qualified nursing staff versus support nursing staff should be employed in your ward? Briefly explain why?
How do you know when you have the correct nurse staffing and skill mix levels for your ward?

8. <u>Research and education</u>

Are you currently conducting any research into how nursing skill mix for your ward is determined? If yes please outline the main findings of these studies

How does education, training and development of nursing staff working in your ward affect skill mix?

How are education, training and development needs for staff working in your identified?

	Yes	**No**
(a) Service planning		
(b) Workforce planning		
(c) Professional development plans		
(d) Training needs analysis exercise		
(e) Others		

9. Any other comments?