Emergency Department Nursing Workforce Planning Framework

A framework to assist standardisation of workforce planning approaches across Emergency Departments and the Emergency Care Networks in Ireland.

Tús Áite do Shábháilteacht Othar
Patient Safety First

EMERGENCY MEDICINE

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive
Clinical Strategy and Programmes Division

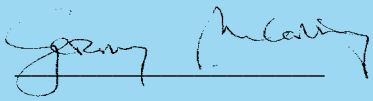
Office of the Nursing & Midwifery Services Director

Acknowledgements

The development of this framework is the product of genuine collaborative work and co-design by multiple key stakeholders across our emergency care and wider healthcare services. The collaborative effort by all stakeholders has ensured the development of a framework fit for purpose to equip our emergency services in their workforce planning endeavours not only for now, but also into the future.

A team based in the Institute of Leadership, Royal College of Surgeons in Ireland, who were successful in the commissioning process, developed the framework in collaboration with a dedicated Project Advisory Group comprised of key stakeholders across the spectrum of Emergency Care and Emergency Nursing in Ireland, the National Emergency Medicine Programme (EMP), Health Services Executive (HSE) HR, Directors of Nursing Acute Services, HSE Acute Hospitals Office, Irish Nurses and Midwives Organisation, and led by the EMP Service Planner.

I wish to thank the following for their involvement in and support for the development of this framework, which was supported by Dr. Michael Shannon, and funded by the Office of the Nursing and Midwifery Services Director (ONMSD), at the request of the National EMP.



Dr. Gerry McCarthy
National EMP Clinical Lead

Emergency Department Nursing Workforce Planning Framework

RCSI Institute of Leadership (IL) – Project team

Ms Sibeal Carolan	Programme Director and Lecturer RCSI IL
Dr. Philippa Ryan Withero	Associate Faculty RCSI IL

ED Workforce Planning Framework Project Advisory Group

Susanna Byrne (chair)	Emergency Medicine Programme Service Planner
Sinead O'Connor	Emergency Medicine Programme Manager
Fiona McDaid	Emergency Medicine Programme Nurse Lead
Sinead Lardner	Emergency Medicine Programme Nurse Lead
Valerie Small	Emergency Medicine Programme Advanced Nurse Practitioner Lead
Deirdre Thomas	Emergency Nurse Interest Group representative from Acute Urban ED
Liz Whelan	Emergency Nurse Interest Group representatives from Adult Only Urban ED
Bridget Conway, Charlotte O'Dwyer & AnneMarie Dowling	Emergency Nurse Interest Group representatives from Paediatric Only ED
Helen Hanrahan & Angela Boyle	Emergency Nurse Interest Group representatives from Mixed Adult/Paediatric ED
Patricia Donovan	Emergency Nurse Interest Group representative from Local Injury Unit
Aine Lynch	Emergency Nurse Interest Group (education representative)
Geraldine Shaw	Director of Nursing National Clinical Programmes (Replaced Joan Gallagher)
Liz Roche	ONMSD / Area NMPD Director
Margaret Casey	Director of Nursing representative from IADNAM
Paddy Duggan	HSE HR (Replaced John Brehony)
Elizabeth Adams	Irish Nursing and Midwifery Organisation (INMO).
Ciaran Browne	HSE Acute Services

Participating sites

Site	Link staff
Our Lady of Lourdes Hospital Drogheda, Co Louth	Angela Boyle: Assistant Director of Nursing Sinead Lardner: Clinical Nurse Manager III
National University Hospital Galway	Helen Hanrahan: Assistant Director of Nursing
Our Lady's Children's Hospital Crumlin, Dublin 12	Bridget Conway: Clinical Nurse Manager III
St. James' Hospital Dublin 8	Deirdre Thomas: Assistant Director of Nursing Sean Farrell: Clinical Nurse Manager III
Sligo General Hospital Sligo	Helen O' Shea: Clinical Nurse Manager III

Project advisory group and ENIG members who participated in site data collection

Liz Roche	NMPDU Area Director DML, ONMSD
Liz Whelan	Assistant Director of Nursing, Mater Hospital Dublin
Charlotte O' Dwyer	Clinical Nurse Manager III, National Children's Hospital Tallaght Dublin
Sinead Lardner	Clinical Nurse Manager III, Our Lady of Lourdes Hospital Drogheda
Sean Farrell	Clinical Nurse Manager III, St. James' Hospital, Dublin

Toolkit Test Sites

Margaret Casey Director of Nursing & Mary Crehan Clinical Nurse Manager 3	Portiuncula Hospital Ballinasloe
Berneen Laycock, & Yvonne Connaughton	Adelaide, Meath and National Children's Hospital
Brendan Malone	Tallaght, Dublin 24
Susan Watkins CNM 2 (research)	University Hospital Limerick
Noreen O'Sullivan Assistant Director of Nursing	Mercy University Hospital Cork

Specialist Advisors & Contributors

Dr. Keith Hurst	Independent Consultant
Ms. Michelle O' Neill	Senior Health Economist, Health Information and Quality Authority (HIQA)
Dr. Sarah Condell	Nursing & Midwifery Research & Development Lead ONMSD
Ms. Maureen Flynn	National Lead for Clinical Governance Development
Ms. Joan Gallagher	Office of the Director General
Ms Carmel Cullen	HSE Communications
Ms Helen Bohan	Senior Administrator, Nursing and Midwifery Planning & Development Unit, Dublin South, Kildare & Wicklow.

This framework is for use by senior ED nurse managers and their teams in the emergency setting, directors of nursing, other senior nurse managers, human resource staff and other healthcare staff clinical or corporate, that have a remit for workforce planning.

The framework should be read alongside the National Emergency Medicine Programme (EMP) report (HSE 2012b) and other subsequent relevant EMP publications; ANP guide (HSE 2013b), LIU guidance document (HSE 2013a) and ED nursing role profile document (HSE 2014a) (available on emnow.ie)

Individual sections of the framework can be used separately but should be interpreted and implemented in the context of the entire framework.

This framework is endorsed by HSE ONMSD and the EMP and HSE Leadership team. Implementation of the framework is the responsibility of local services.

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EXECUTIVE SUMMARY

Appropriate levels of staffing are fundamental in meeting patients' needs and assuring the quality and safety of their time spent in the emergency setting. Currently there are no national guidelines for nursing establishments in Emergency Departments (EDs) in Ireland, nor is there an agreed methodology for determining appropriate utilisation of nursing and support staffing allocations in the ED. One of the recommendations of the Emergency Medicine Programme (EMP) report (HSE 2012b) is that 'Standardised staffing models will be developed to ensure equitable and appropriate staffing for all EDs and Emergency Care Networks (ECNs)'. Therefore, in order to realise this recommendation, the Office of the Nursing and Midwifery Services Director (ONMSD), at the request of the EMP, commissioned the Royal College of Surgeons in Ireland, Institute of Leadership, (RCSI IL) following a tendering process, to design and develop a Workforce Planning Framework to assist ED nurse managers and other relevant staff in determining the most effective and appropriate utilisation of their existing nursing (and support staff) resource in the emergency setting.

The primary drivers for the development of this framework were the necessity to;

- Implement a standardised staffing model as recommended by the EMP Strategy;
- Support and guide senior ED nurse managers and their team to assess and plan their nursing workforce;
- Respond to the current focus of the health reform agenda which sets out the necessity for greater utilisation of skills of all healthcare workers in response to and in conjunction with the current reforms across the health system;
- Be compliant with HIQA (2012a) standards. Standards for safer, better healthcare, Standard 6-Workforce.

The decision to undertake a workforce planning framework approach was significant; the justification being to facilitate ground up decisions around local workforce requirements. According to the Royal College of Nursing (RCN 2010a), nursing workforce planning at local level is critical as ideally systems at local level should guide and inform regional and national nurse staffing levels. Such an approach is more likely to produce intelligent and consistent information on the nursing workforce. This demands that local services and nursing management be informed and equipped with appropriate guidance on the most appropriate methods to determine nurse staffing levels and skill mix, to meet the evolving needs, not only of health service redesign and technological advances, but also service user expectations of quality care. This is evident in the recent publication of the National Institute of Healthcare Excellence (NICE) guidance (2014a) on safe staffing, which sets out recommendations on the factors to be systematically assessed to determine the appropriate nurse staffing establishment.

The ED Workforce Planning Framework Project objectives were to

- Develop a framework to serve as a guide to support senior ED nurse managers and their teams to assess and plan their nursing (and support staff) workforce to meet the needs of their individual services
- Support the standardisation of workforce planning approaches across EDs nationally
- Develop the competence and confidence of senior ED nurse managers and other relevant staff in making informed workforce decisions
- Provide the evidence base to support informed workforce decisions by senior ED nurse managers in conjunction with local management.

This completed Emergency Department Workforce Planning Framework, hereafter referred to as 'the framework', serves as a guide and a suite of resources to support senior ED nurse managers and their teams in collaboration with local management to assess and plan their nursing (and support staff) workforce to meet the needs of their individual services. The framework promotes a consistent, standardised and evidence based approach to workforce planning and provides the tools and resources to support workforce decisions.

Key principles of the Framework

The following principles guided the methodology used in the development of the framework:

- Using research to underpin the development
- Driven by information and data
- Using cycles of testing, evaluating, adapting and refining to ensure fit for purpose
- Facilitating a collaborative approach in design to ensure successful development and subsequent implementation
- Supporting users to have a strategic approach to workforce planning
- Supporting a focus on quality and safe care for emergency patients

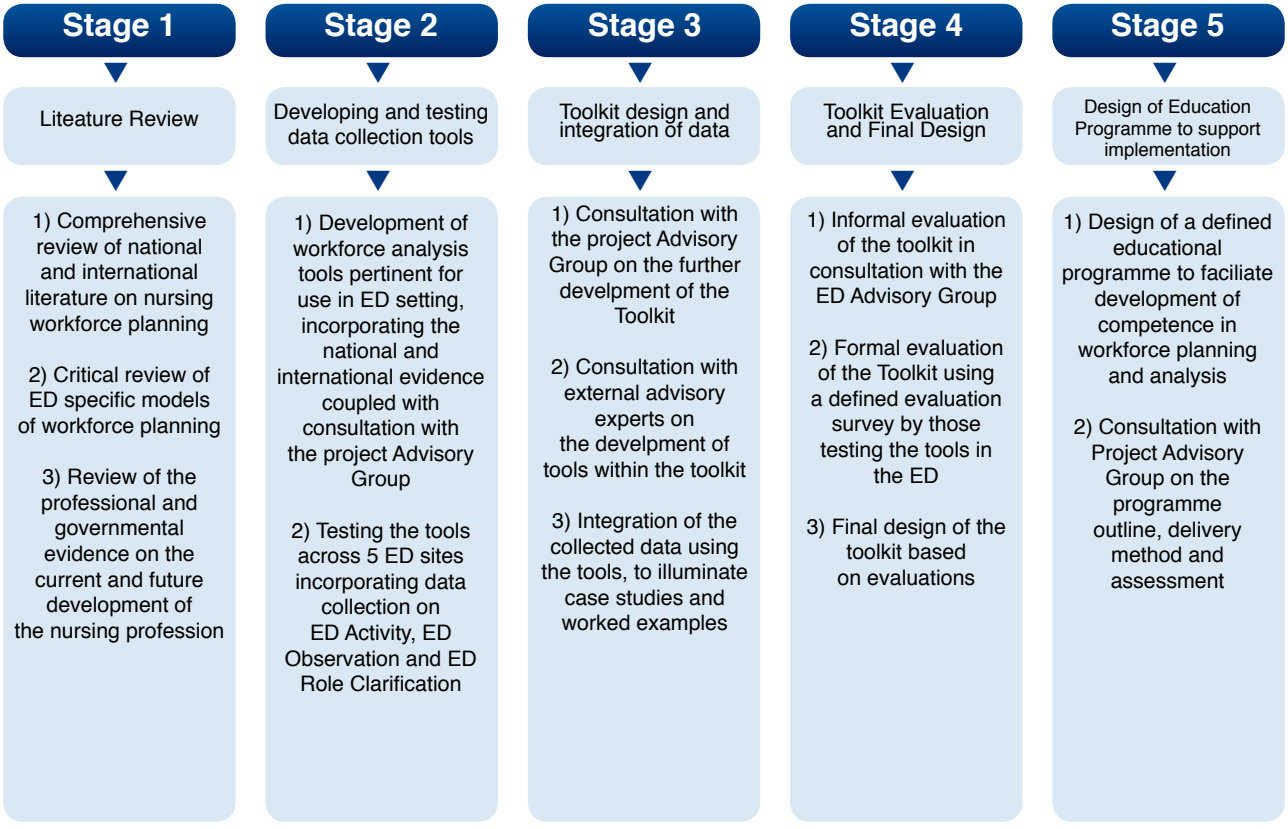
How the framework was developed

The approach taken to the development of this ED workforce planning framework was one of a successive staged approach. The project was implemented in five stages (Figure 1); with each stage a critical component to the achievement of the specific and overall project objectives and key outcomes. This approach ensured a robust methodology to support development of the framework and guided the project from initiation to completion.

A more detailed presentation of the methodology employed for the development of the framework is presented in Appendix 1 of the framework document.

The three key components of the final framework include a robust review and presentation of relevant national and international literature pertaining to workforce planning in the emergency setting (Part 1) a practical and user-friendly workforce planning toolkit comprising of six distinct sections focusing on factors to be systematically assessed to determine the appropriate nurse staffing establishment (Part 2) and an implementation methodology for the framework in the form of an education programme outline designed for users of the framework (Part 3).

Figure 1: Five key stages of the Workforce Planning Framework development.



Part 1: Literature review

The objective of this literature review was to firstly broadly examine and assess the available literature pertaining to workforce planning models and approaches and secondly to examine this literature in the context of Emergency Departments from a National, European and Global perspective. The literature review is available as a tool in itself within the framework for ED nurse managers and their team to support evidence based workforce decisions (Part 1).

The key conclusions from this literature review include the necessity

- to monitor ongoing changes in the profession of nursing coupled with changes in the health system model of delivery which may impact on current and future planning of the nursing workforce
- to use a systematic method, inclusive of the various factors affecting the workforce capability to delivery safe quality care, to determine the appropriate nursing workforce
- to understand the requirement to engage in ongoing monitoring and reassessment of the factors affecting the capability of the workforce to deliver safe quality care
- to integrate professional judgment in addition to systematic assessments to determine the nursing workforce
- to ensure methods take cognisance of and measurement of patient outcomes
- to factor in financial considerations to ensure value for money in the management of the workforce as well as to support effective and efficient workforce planning

The information generated in this review was used to inform the subsequent development of the ED Workforce Planning Toolkit (Part 2) and the outline design education programme to support implementation of the overall framework (Part 3).

Part 2: ED Workforce Planning Toolkit

This toolkit aspires to provide a systematic and consistent approach to emergency nursing workforce planning and to provide the tools to collect the evidence to strengthen and enhance the use of the nursing resource to its full potential.

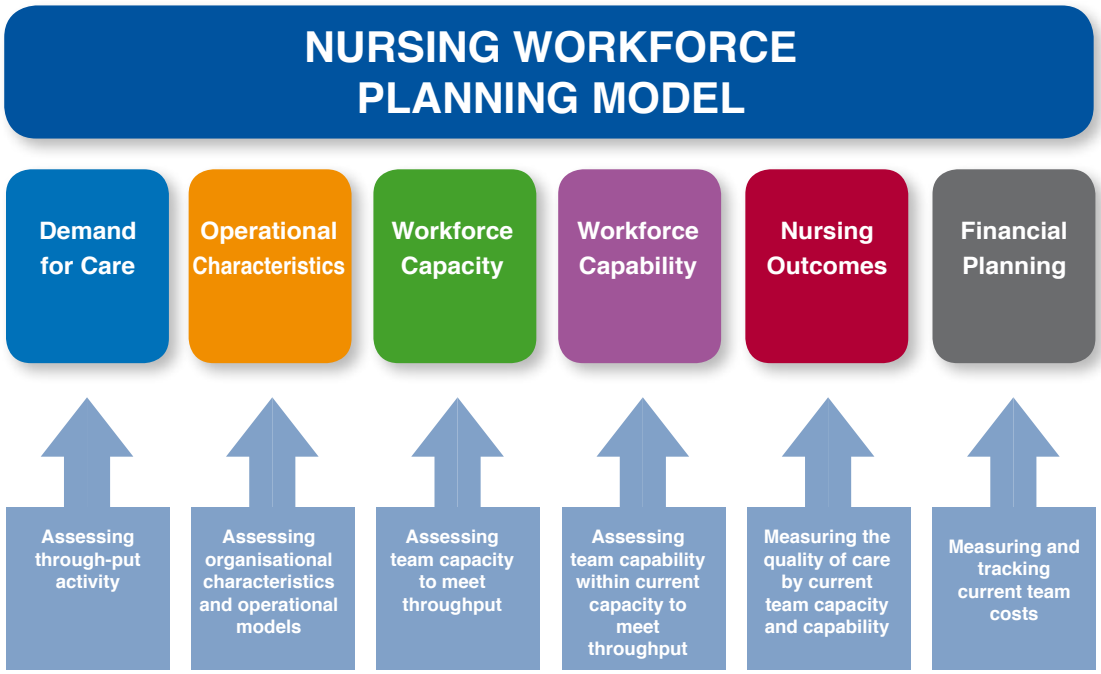
The toolkit aims to:

- Introduce the core concepts of nursing workforce planning;
- Act as a guide to nurse managers and nursing teams in EDs to plan and/or review their nursing and support staff workforce;
- Provide a systematic approach to the measurement of nursing workload to inform planning of the nursing workforce both currently and into the future;
- Provide tools, practical examples, work-based activities and case studies to support informed decisions on shaping the nursing workforce;
- Lead to informed decisions on the utilisation and deployment of the nursing workforce to meet service needs.

The ED Workforce Planning Toolkit is structured in six sub sections and is colour coded to help users navigate to their chosen section (Figure 2). The toolkit is designed for use as a collective suite of tools however it is also designed to be flexible in that users can select sections that are most relevant to their current needs. The toolkit has a practical user friendly focus and includes work-based activities and worksheets, tools, tips, worked examples, and case studies underpinned by a workforce planning model, to help guide practice on assessing and planning the nursing workforce by the emergency nursing team. The toolkit is evidence based and a comprehensive reference list is available in the literature review section. In addition, to support implementation at local level, samples of the templates and tools to support workforce planning in EDs are also presented.

The toolkit has been tested on the ground to establish its usability, relevance and applicability in practice.

Figure 2: ED Nursing Workforce Planning Toolkit



Part 3: Education Workshop Programme Design

It is recognised that to make this framework a reality, the end users should be supported in implementing the framework on a day to day basis. To support this, an education programme outline has been designed with the objective of providing a practical approach to empowering ED nurse managers and other nurse managers with knowledge and skills, confidence and competence to implement the ED Workforce Planning Framework. Most specifically users will be supported through education to use the toolkit and information/data locally in order to assess and determine the appropriate, effective, efficient and safe use of their existing nursing resource.

The following are the Workforce Planning Education programme outcome competencies:

1. Enhance the standard of workforce planning for emergency nurses and other relevant staff by assisting them in confidently and competently implementing the ED Workforce planning framework in their local emergency care setting;
2. Facilitate the personal and professional development of participants to increase their capacity to fulfil workforce planning roles in the emergency healthcare setting;
3. Develop the ability of participants to integrate skills, attitudes and knowledge gained throughout the workforce planning workshop and to apply these in practice;
4. Prepare participants to acquire the knowledge and skills to provide a workforce planning function in their emergency setting and to contribute to the improved workforce planning capability through evidenced based practice.

Conclusion

This developmental work is an important step not only for emergency nursing teams across Ireland, but across the healthcare services as a whole, as it is the first framework of its kind, targeted at nursing workforce planning support. This work recognises the significant and ever increasing focus on the nursing resource to provide safe high quality care and the framework supports the process of determining their capacity and capability to achieve this goal. Equally, this work is critical in the context of the national standards for Safer Better Healthcare (HIQA 2012a) whereby Standard 6-workforce, outlines the necessity to determine workforce requirements to meet sustainable high quality safe care and support. A core tenet to the development of this framework was the genuine collaboration and co-design by all key stakeholder representatives. This is evident from the statements of endorsement by key members of the project advisory group and other relevant staff who have tested the framework during its development:

Statements from Stakeholders

I am delighted that this toolkit, the first for emergency nurse managers is clear and easy to understand while also going into adequate depth. It is very much about giving structure and purpose to information we already have in our departments and building upon the potential of nurse managers already in post.

The toolkit provides a simple, practical way for CNM's to determine, explore and understand information on their departments in a structured way and empowers them to utilise this for a variety of purposes.

The toolkit brings together many aspects of emergency workforce planning from demand for care, to team capability and developing business plans in a coherent way. It therefore sets the future direction for CNM2's in emergency care that will not only benefit them but also help to deliver better safer care.

What struck me most was the very practical application of this toolkit for nurse managers in the Emergency setting. It supports and informs their development from initial appointment to experienced practitioners with its focused learning strategies and opportunities through work place activities, case studies, tools and guidance. This will aid the development of emergency nurse managers of the highest calibre who will optimise their role both in meeting the changing needs of patients and engaging in future innovation and development as champions of the Emergency Medicine Programme.

Liz Whelan
ADON, Mater Hospital

The framework supports both collection, and interpretation of data to support workforce decisions. It is very useful to have a toolkit that can be completed by front line managers. The toolkit is simple and straight forward, it supports the involvement of all staff in the unit in change management and encourages staff to look new ways to do things better. It supports the systematic review and use of data to improve service delivery.

Margaret Casey
Director of Nursing, Portiuncula Hospital – IADNAM member

This framework will assist what we do every day. It has really just formalised our thought processes into document form. For a long time we, as Emergency Department Nurses and Managers, have struggled to describe what we actually do on a daily basis and to explain why we need certain cohorts of staff etc. The framework which involved site visits to EDs has been devised and designed based on evidence around our day-to-day workloads and multitasking being observed and documented in real time. Now, for the first time ever we will have a framework available to Emergency Department nurses that is specifically devised for the ED to support our workforce decisions.

Sinead Lardner
CNM3 ED, Our Lady of Lourdes Hospital Drogheda and National EMP Nurse Co-Lead

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The National Emergency Medicine programme aims to improve the safety and quality of care and reduce waiting times for patients in emergency departments. Care to patients is provided by a wide range of staff; pre-hospital staff, doctors, nurses, allied health professionals, administrative and support staff and there is a requirement to ensure that their capacity, capability and deployment meets patient need.

This toolkit which is the result of high level collaboration with all stakeholders provides a focus on the nursing and health care assistant roles and seeks to provide a set of key measures to support informed decisions to strengthen and enhance the nursing resource to its full potential. Components of the toolkit were tested in emergency departments in Ireland and adapted as appropriate to ensure applicability in our context. The associated education programme will assist nurses in emergency departments develop the knowledge and skills to successfully implement it and nurses managers in this setting are encouraged to undertake this preparation.

Using this comprehensive resource will significantly assist senior nurses within emergency departments understand the factors that contribute to staffing and help them examine these in a practical way so that staff are deployed in the most appropriate way in order to improve the service provided to those who access it.

Liz Roche
Area Director, NMPD DML
Office of the Nursing & Midwifery Services Director, Clinical Strategy & Programmes Division

The workforce planning toolkit will enable nurse managers to develop business plans that are based on the ED's own data facilitating the matching of skill mix with the type of presentation and the templates assist nurse managers in analyzing the current staffing and caseload, enabling them to identify areas requiring further review.

Fiona McDaid
CNM 3 ED, Naas General Hospital and National EMP Nurse Co-Lead

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I am delighted, having been part of the development of this workforce planning framework and toolkit for ED Nursing, to support its publication. As a first and very important step, this toolkit aspires to provide a systematic and consistent approach to emergency nursing workforce planning throughout the Republic of Ireland by providing a guide to support local nursing teams to assess and plan in collaboration with local management. It is not intended to be prescriptive or exhaustive but an enabler to support dialogue, planning and decisions'

Geraldine Shaw
Director of Nursing & Midwifery / National Clinical Programmes, Office of the Nursing & Midwifery Services Director, Clinical Strategy & Programmes Division

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It has been a pleasure to lead out on this exciting initiative and rewarding to see the vision for a workforce planning framework specific for emergency settings evolve into a tangible and practical resource for services. The robust governance, comprehensive consultation process and engagement with stakeholders throughout the project has ensured a framework which is fit for purpose as well as being capable of standing the test of time going forward.
The concept of workforce planning is acknowledged as being fundamental role of the ED nurse manager; however implementation in practice is challenging particularly if the tools and guidance are not available. I am confident that this framework will provide the tools and guidance required to support ED nurse managers in making sound and evidence based workforce decisions.

Susanna Byrne
NMPDU Director, Dublin South, Kildare & Wicklow & Service Planner National EMP

As an operational tool the ED toolkit scores highly on four vital components of integrated workforce management:

- *it establishes a clear methodology for relating service activity and workforce demand*
- *it achieves alignment in the collection of workforce data and service data so that meaningful relationships can be identified*
- *it assesses workforce capacity and capability in the context of service activity thereby providing valid pointers to professional and personal development*
- *it provides a basis for assessing validated financial and workforce data against observed and predicted service activity.*

From an organisational workforce management perspective the national implementation of this framework will establish local workforce planning as a critical component in the development of workforce planning at hospital level, hospital group level and at acute division level.

Paddy Duggan,
HR, HSE

This workforce planning toolkit is the culmination of the experiences of emergency nurses and a reflection on the changing healthcare environment within which they operate. For the first time in the history of emergency nursing we have a live, interactive, user friendly toolkit which can assist nurse managers in understanding 'how' their department functions. It will assist in the development of the skills, competencies and career pathways for staff within their departments in order to meet the healthcare need of the service users. Workforce planning strategies contained within the toolkit will enable capacity building and succession planning for all nursing roles from staff nurse to clinical nurse manager to advanced nurse practitioner and will assist in a nationwide standardised approach to matching service user need to the delivery of high quality clinical care.

Valerie Small
Advanced Nurse Practitioner
ANP Advisor to National EMP

The framework is a great resource as it provides the opportunity for the team to reflect on the activity of our department. I utilised the toolkit during its development as part of the pilot and it generated information which focussed on workforce capacity and operational characteristics. This information subsequently assisted me in making informed decisions to strengthen and enhance the nursing roles to full potential in ED. I also successfully presented this key information and measures in discussions with senior hospital managers to assist in improving the service.

Helen Hanrahan
ADON, University Hospital Galway

GLOSSARY OF TERMS

ABA	An Bord Altranais (Nursing Board of Ireland) now known as the Nursing and Midwifery Board of Ireland (NMBI)
ABG	Arterial Blood Gas
ADoN	Assistant Director of Nursing
ANP	Advanced Nurse Practitioner
CCP	Clinical Care Programmes
CF	Clinical Facillitator
CNM	Clinical Nurse Manager
CNS	Clinical Nurse Specialist
DoH	Department of Health
DNM	Divisional Nurse Manager
ECG	Electrocardiogram
ECN	Emergency Care Network
ED	Emergency Department
EMSB	Emergency Management of Severe Burns
EMP	Emergency Medicine Programme
ENIG	Emergency Nursing Interest Group
GP	General Practitioner
HCA	Health Care Assistant
HDip	Higher Diploma
HIQA	Health Information and Quality Authority
HR	Human Resources
HSE	Health Service Executive
INMO	Irish Nurses and Midwives Organisation
LIU	Local Injury Unit
MIU	Minor Injury Unit
MTS	Manchester Triage System
ONMSD	Office of the Nursing and Midwifery Services Director
RCSI IL	Royal College of Surgeons in Ireland, Institute of Leadership
TDIMA	The Dartmouth Institute Microsystem Academy
WTE	Whole Time Equivalent

Part 1

Literature Review

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1.0 Introduction

Nursing in many countries internationally constitutes the largest element of the healthcare workforce (Gerdtz & Nelson 2007). Justifiably, therefore, a substantial proportion of the literature and research on effective resource utilisation and workforce planning within healthcare emanates from within the nursing profession. The focus of early literature on nursing workforce planning centered primarily on the measurement of nursing workload to determine demand for nursing care time and thus predict staffing requirements (Arthur & James 1994; McKenna 1995, Needham 1997; Carr-Hill & Jenkins-Clarke 1995). This early work has since undergone significant exploration and further development, with attention currently focused on nursing workforce planning methodologies that are cognisant of the emerging research evidence of the impact of the relationship between nurse staffing level, quality of the nursing team such as skill mix and grade mix and the organisational environment on patient outcomes. More recently the debate around mandatory minimum nurse staffing levels has generated further discussion on this topic as evidenced by the publication of multiple systematic reviews, reported within the international literature (Spilsbury 2001; Lang et al 2004; Crossan & Ferguson 2005; Currie et al 2005; Lankshear et al 2005; Kane et al 2007; Flynn and McKeown 2009); many of whom support the association between nurse staffing levels and improved patient outcomes (Currie et al 2005; Lankshear et al 2005; Kane et al 2007; Flynn and McKeown 2009). Consequent to this literature and coupled with recent multiple reports of failings in nursing care, the focus has shifted on to the debate for the introduction of minimum nurse staffing levels. This approach however, whilst introduced in some jurisdictions, has recently been rejected in the UK in favour of safe staffing guidelines developed by the National Institute for Healthcare Excellence (NICE), (NICE 2014 a, b, c, d, e).

The focus of this literature review is an examination of the National, European and Global evidence on nursing workforce planning with particular emphasis on the specific evidence related to emergency department (ED) nursing workforce planning models and approaches. When reviewing the various models and approaches explicit attention was paid to the capacity of these models to deliver on service reconfiguration and design within existing resources as opposed to increases in staffing in EDs. The capability of the workforce planning models to address, analyze and support direct re-engineering of current staffing and skill mix, service delivery models and lean processes (as examples) have been critically reviewed to ascertain the "fitness" of the models to the emergency setting in an Irish context. These models and approaches were also considered in the context of the current focus by the Health Service Executive (HSE) and the National Emergency Medicine Programme (EMP) on driving greater efficiency, whilst maintaining service quality and meeting outcomes such as access and safety.

Thus this literature review is divided into the following subsections:

a) **Contextual factors within the health system in Ireland influencing workforce planning**; This section outlines historical and current developments in the profession of nursing; the model of health service delivery in Ireland and the planned changes affecting the configuration of the workforce into the future along with the national policy agenda for workforce planning within the health services.

b) **Outline of workforce planning methods and approaches.** This section critically discusses the historic and current methods and various approaches to nursing workforce planning.

c) **Workforce planning in the Emergency Care setting**. This section focuses on the evidence of workforce planning methods and models, specific to the ED setting.

d) **The factors influencing effective nursing workforce planning**. This section critically reviews the evidence of those factors such as skill mix, outcomes and nurse staffing level which impact and influence effective nursing workforce planning.

1.1 SEARCH STRATEGY

This review of the literature was undertaken in a comprehensive structured manner applying the principles of Cooper's (1988) taxonomy of literature reviews with a defined focus, goal, perspective, coverage, organisation and audience. Specific search strategies were conducted using electronic databases including: CINAHL, Medline, Pubmed, Cochrane Institute, Science Direct, Ovid, Google Scholar and the general search engine Google. Additionally evidence from professional associations and governmental bodies was searched including but not limited to: Nursing and Midwifery Board of Ireland, HSE, HIQA, INMO, Department of Health Ireland, National Council for the Professional Development of Nursing and Midwifery in Ireland, Department of Health UK, UK Audit Commission, Royal College of Nursing, Nursing and Midwifery Council, American Nurses Association (ANA), Canadian Nurses Association, The Royal College of Nursing Australia (RCNA), National Health Service UK, Kings Fund, Nuffield Institute, Commission for Healthcare Quality UK, WHO, Australian Health Workforce Institute.

Websites searched included those of: Emergency Nurses Association, Irish Association of Emergency Medicine, European Society for Emergency Medicine, Emergency Nursing Association of Canada, Emergency Nursing Association of Australia, Emergency Care Association (UK RCN). Reference lists of core texts were explored to identify additional papers for inclusion. Individual Journal searches included: Journal of Emergency Nursing, Journal of Emergency Medicine, International Journal of Emergency Medicine, Advanced Emergency Nursing Journal, Journal of Nursing Management, and International Journal of Nursing Administration.

The search terms used for the review included the following: 'nursing workforce planning', 'workforce methods', 'evaluation and engagement in nursing workforce planning', 'skill mix', 'nurse sensitive outcomes', 'workload/workload measurement', 'activity', 'patient dependency', 'nursing intensity', 'cost effective care', 'determining nurse staffing and staffing ratios', 'emergency and skill mix'; 'staff and emergency'; 'emergency and workforce planning', 'demand and capacity in Emergency Departments', 'emergency and dependency', and 'quality and staff levels in emergency departments'. The following themes emerged from the literature: Workforce Planning Methodologies and Approaches; Factors influencing Nursing Workforce Planning such as Skill Mix, Environment and Outcomes; Lean Methodologies and Workforce Planning; Emergency Department Workforce Planning.

1.2 CONTEXTUAL FACTORS INFLUENCING WORKFORCE PLANNING IN IRELAND

In advance of the review of the national and international literature on nursing workforce planning in the Emergency Setting it is important to establish the current context of health service delivery. This will include particular focus on the model of Emergency Care in Ireland as set out by the EMP (HSE 2012b), as well as examining the context of nursing and midwifery professional development, and the national health workforce policy agenda in Ireland. The value of examining these three factors lies in providing key insights into the current construction of the profession coupled with an understanding of the current model of service delivery, particularly in Emergency Care.

1.2.1 Health Service Delivery and the Model of Emergency Care Delivery in Ireland

The most recent Healthy Ireland (Department of Health 2013a) report has presented a framework for improved health and well-being for the population of Ireland. This report confirmed that Ireland has a population of 4.6 million (CSO 2011) which represents an 8% increase since 2006. People living in Ireland are now living longer than ever before but not all are living those longer lives in good health. Between 2010 and 2020 the number of adults with diabetes is expected to rise by 30%, the number with chronic pulmonary disease by 23%, the number with hypertension by 28% and the number with coronary heart disease by 31% (Department of Health, 2013a). This changing demographic will present new challenges in terms of ensuring that as people age they maintain the best possible physical health, mental health and wellbeing. The Future Health Report (Department of Health 2012a) provides a strategic framework for reform of the health services

to improve efficiency, give better access to care and provide a mandate to address the growing health and wellbeing needs of the population. However the projected increase in the incidence of chronic disease will impact on emergency healthcare settings in relation to capacity and demand.

To support a more focused strategy, the Health Service Executive (HSE) established the National Clinical Programmes (NCPs) under the Quality & Patient Safety Directorate in 2009. The role of the NCPs is to improve and standardise patient care by bringing together clinical disciplines and enabling them to share innovative solutions to deliver greater benefits to every user of HSE services: http://www.hse.ie/eng/about/Who/clinical/. They are based on three main objectives;

- To improve the quality of care delivered to all users of HSE services
- To improve access to all services
- To improve cost effectiveness

One such programme, the National Emergency Medicine Programme (EMP) was initiated in July 2010. The aim of the EMP is to improve the safety and quality of care and to reduce waiting times for patients in Emergency Departments (EDs). It is planned to achieve this through developing models of care to improve patient access to high quality emergency care and by supporting continuous quality improvement across the emergency care system.

The programme is the most comprehensive and ambitious strategic plan for emergency care ever undertaken in Ireland. The programme is led by a multidisciplinary working group that includes consultants in emergency medicine, emergency nurses, representatives of pre-hospital care and the therapy professions. It is supported by the Irish Committee for Emergency Training (ICEMT), the Irish Association for Emergency Medicine (IAEM), the National Board for Ireland of the College of Emergency Medicine (ICEM), the Office of the Nursing and Midwifery Services Director (ONMSD), the Therapies Profession Committee and the Clinical Strategy and Programmes Division (CSPD) within the HSE.

The EMP report (HSE 2012b) provides a blueprint for future emergency healthcare service delivery and outlines the model of care to achieve this. The recommended model of emergency care is a National Emergency Care System (NECS) comprising of Emergency Care Networks (ECNs). ECNs are collaborating groups of Emergency Departments (EDs) and Local Injury Units (LIUs) organised to deliver safe, high quality emergency care to local populations and communities. These structures are in development nationally, some have emerged and others are not as yet defined.

Of particular note, the EMP report included a focus on workforce planning. The EMP recommended that a workforce plan for National Emergency Care Services should be viewed from a long term perspective and be informed and influenced by:

- Baseline data
- Best research evidence and reports from the international literature
- Clinical acuity and activity and case mix profiles
- Future configuration of acute hospitals and EDs
- Hours provided in the ECN unit
- Best practice in workforce planning in an Irish healthcare context
- Enhanced ECN efficiency and access targets

The workforce planning section of the report also included reference to a survey of the forty Emergency Department and Minor Injury Units in November 2010. The aim of this survey was to establish the baseline of existing resources and to support future workforce planning and service development across emergency care services nationally. The recommendations from this section of the EMP report indicated that standardised staffing models will be developed to ensure the equitable and appropriate staffing of all EDs and LIUs. This ED Workforce Planning Framework supports the implementation of this recommendation.

In tandem with these recommended developments and improvements in the delivery of Emergency Care via a focused National Clinical Programme, the impact of the planned restructuring of the health services and in particular acute hospitals will be felt. In April 2013 (Department of Health 2013b) published a strategy for re-organisation of public hospitals into more efficient and accountable hospital groups that will deliver improved outcomes

for patients was launched. This represents the most fundamental reform of the Irish acute hospital system in decades. The Government's decision regarding the establishment and operation of the new hospital groups was informed by two reports - 'The Establishment of Hospital Groups as a Transition to Independent Hospital Trusts', and 'The Framework for Development – Securing the Future of Smaller Hospitals' (DoH 2013d, 2013c). These publications fulfill important commitments in *Future Health,* the strategic framework for reform of the health service which was published by DoH 2012 (2012a). Acute hospitals in each group will work together as single cohesive entities managed as one, to provide acute care for patients in their area of remit, based on the evidence based needs of their populations and integrating with community and primary care. This will maximise the amount of care which can be delivered locally, whilst ensuring complex care is safely provided in larger hospitals within the group. Seven hospital groups have been established as follows:

1. Dublin North East;
2. Dublin Midlands;
3. Dublin East;
4. South/South West;
5. West/North West;
6. Midwest;
7. Children's hospital group

Each group will comprise between six and eleven hospitals (with exception of children's hospital group) and will include at least one major teaching hospital. Each grouping will also include a primary academic partner in order to stimulate a culture of learning and openness to change within the hospital group. Robust governance and management structures will be put in place at group level.

The objectives of the hospital groups are to:

1. achieve the highest standard of quality and uniformity in hospital care across the group;
2. deliver cost effective hospital care in a timely and sustainable manner;
3. encourage and support clinical and managerial leaders;
4. ensure high standards of governance, both clinical and corporate, and to recruit and retain high quality nurses, NCHDs, consultants, allied health professionals and administrators in all hospitals.

The introduction of groups will provide for organisational change in the first instance, giving more autonomy and better enabling the re-organisation of services in a well-planned manner. Over time, this will help to improve services and deliver better outcomes for patients (www.doh.ie).

Prior to the recent introduction of the reformed hospital group structure, a Special Delivery Unit (SDU) was established in 2011 as part of Government plans to radically reform the health system in Ireland. The key priorities of the SDU are process improvement in Emergency Departments, In-patient Waiting Times, Out-patient Waiting Times, and Access to Diagnostics. In 2013 The SDU published a document titled "Technical Guidance Introducing Demand and Capacity Planning" (HSE 2013c). The guidance draws on published literature (including grey literature on best practice examples) as well as international health care improvement guidance. It is recommended that this workforce planning framework document is used in conjunction with SDU Technical Guidance on Patient Flow (Part 1, HSE 2013c) and SDU Strategic Plan for Unscheduled Care (HSE 2013e). These documents provide current information in relation to workforce planning methodologies and are specifically targeted to the Irish healthcare context.

From a standards perspective The Health Information and Quality Authority (HIQA), an Independent Authority, was set up in May 2007 to drive continuous quality improvement in Ireland's health and social care services. Reporting directly to the Minister for Health, their role is to promote quality and safety in the provision of health and personal social services for the benefit of the health and welfare of the public. It is responsible for driving improvements in the quality and safety of healthcare on behalf of patients. The authority develops standards, monitors compliance with standards and carries out investigations where there are reasonable grounds to do so.

The role of HIQA has been essential in supporting and driving the safety and quality agenda at a time when the health sector is under intense scrutiny as a result of many reports of sub standard care leading to public enquiries both in Ireland and in the UK. The Francis Report (Francis 2013) was published in 2013 following public inquiries between November 2010 and December 2011, following

significant complaints of sub optimal care in the Mid-Staffordshire Foundation Trust in the UK. Listed below are some of the inquiry findings:

- A culture focussed on doing the system's business – not that of the patients
- A culture which focussed on ascribing more weight to positive information about a service than to information capable of implying cause for concern
- Standards which did not focus on the effect of a service on patients
- Tolerance of poor standards and of risks to patients.

The recommendations from the report included - fostering a common culture shared by all in the service; provision of professionally endorsed and evidence based care which supports compliance with standards; enhancement of the recruitment, education, training of staff; support for all the key contributors to the provision of healthcare, but in particular those in nursing and leadership positions; and integrates the essential shared values of the common culture into everything staff do. The Francis Report (2013) is a key document because of the methodology, timing and relevance. Equally, more recent national reports such as the 'Patient Safety Investigation Report into Services at University Hospital Galway (UHG) (HIQA 2013a) and the Midland Regional Hospital Portlaoise, Perinatal Deaths 2006 to date Report (Department of Health 2014) herald similar recommendations. The National Standards for Safer Better Healthcare published in September 2012 (HIQA 2012a) contain 45 standards for acute services, based on best international evidence, to ensure service providers protect patients from risk and from harm, inform patients of adverse events, acknowledge and support key role of healthcare staff, promote clinical governance, and make the best use of information and resources to deliver high quality and safe care within the resources available. The Standards were sanctioned by the Minister for Health under Section 8 of the Health Act 2007 and are structured around eight themes for quality and safety (www.hiqa.ie).

Figure 1:
Health Information and Quality Authority, National Standards

The National Standards for Safer Better Healthcare, launched in September 2012, are a welcome catalyst to ensure systems are in place to support and ensure safe quality care for service users. They will also form the basis for licensing in the future in Ireland.

In preparation for Standards assessment by HIQA, the HSE Quality and Patient Safety Division in collaboration with representation from acute hospitals and regional quality offices developed the Quality Assessment and Improvement Resources (QA+I) to support hospitals in assessing their services against these National Standards. The QA+I Resources include a web enabled QA+I tool, eight workbooks which complement the web enabled tool and a Practical Guide to undertaking quality assessments. This resource provides a practical guide and workbooks specifically for each standard . (HSE 2013c).

1.2.2 Context of Nursing Professional Development in Ireland

Over the last two decades, the nursing profession in Ireland has undergone significant developments which have impacted on the construction and configuration of the nursing workforce. The publication of the Commission on Nursing Report (DoH 1998) provided the most influential catalysts for change in the profession of Irish nursing to date.

The Commission report detailed a co-ordinated and structured approach to the further development of the nursing career pathway amongst numerous other recommendations.

The report also outlined the necessity for a defined career pathway for nursing, recommending the establishment of the National Council for the Professional Development of Nursing and Midwifery (NCNM), whose responsibility it would be to establish and oversee the development of Clinical Nurse Specialist and Advanced Nurse Practitioner roles, amongst other professional development initiatives for the profession.

A further recommendation was the development of nurse manager roles i.e. Clinical Nurse Manager 1, 2 and 3 grades, whose responsibilities would include professional leadership, staffing, workforce planning, staff development and resource management, in collaboration with senior nursing management. This recommendation was aimed at enhancing the engagement of front line nursing management with planning and policy development, along with strengthening nurse leadership.

The Commission authorised a number of reports to inform its work including; Changes in the Professional Role of Nurses in Ireland 1980 - 1997 (Condell 1998); Management in the Health Services: The Role of the Nurse (Flynn 1998) and An Examination of the Changes in the Professional Role of the Nurse outside Ireland (Savage 1998). Of importance to this current review, was the report by Savage (1998), identifying the necessity for nurse managers and nursing staff at operational level to critically examine work design issues including: agreement on staffing numbers and skill mix; periodic review of workload and staffing; establishment of stable ward staffing; allocation of non nursing activities to support personnel and review of work activity to determine skill mix. Similarly, the Commission on Nursing Report (1998) also identified in its recommendations the necessity for nursing organisations, health service providers and the Department of Health and Children to collectively examine the development of appropriate systems to determine nurse staffing levels.

Subsequent to the publication of the Commission on Nursing report the establishment of the National Council for the Professional Development of Nursing and Midwifery supported the development of Clinical Nurse Specialist and Advanced Nurse Practitioner roles in Ireland with multiple ensuing reports demonstrating their impact and value (NCNM 2001, NCNM 2002, NCNM 2004, NCNM 2005, NCNM 2010).

Some significant parallel developments were also taking place in relation to undergraduate nursing education with the transition to a degree educated workforce. Emerging from the traditionalist apprenticeship style nurse education model, the profession transitioned to a degree education programme in 2002. Indicating a paradigm shift in the education of nurses to equate with other healthcare professions, this change represented a key milestone in the development of the nursing profession.

The Nursing and Midwifery Board of Ireland (NMBI), the independent, statutory organisation which regulates the nursing and midwifery professions in Ireland has published numerous documents to support nursing practice and expanded practice including: the Scope of Nursing & Midwifery Practice Framework (An Bord Altranais 2000a); the Code of Professional Conduct for Each Nurse and Midwife (An Bord Altranais 2000b); Practice Standards and Guidelines for Nurses and Midwives with Prescriptive Authority (An Bord Altranais 2007 & 2010). Recently, as part of the Nurses and Midwives Act (DoH 2011a), the Nursing and Midwifery Board of Ireland (NMBI) have assumed regulatory and accrediting authority for Advanced Nursing and Midwifery Practice in Ireland.

More recently the Nursing role has further expanded to include Ionising Radiation Prescribing. In June 2007 Statutory Instrument 303 marked the introduction of legislation for European Communities, Medical Ionising Radiation Protection (European Communities Statutory Instrument 2007). This amended the definition of “prescribers” of medical ionising radiation to include Registered Nurses maintained on the register of nurses by the Nursing Regulator/Board. The NMBI published the Requirements and Standards for Nurse Authority to Prescribe Ionising Radiation (X-Ray)(An Bord Altranais 2008) to support this development. Nurse prescribing of medical ionizing radiation supports health services to provide a more responsive, accessible, effective, timely and efficient service that improves and expedites the patient /service user journey within the health care service leading to increased levels of patient /service user satisfaction.

This is a further example of role advancement pertinent to the ED setting.

Subsequent national reports have emphasised the continued development of nursing practice in Ireland including for example: the Strategic Framework for Role Expansion of Nurses and Midwives (DoH 2011b) which sets out the potential for nursing to contribute to greater flexibility through enhancement and expansion of roles to include tasks traditionally undertaken by medical practitioners. This 6-step framework is immersed in clinical and regulatory standards. From a workforce planning perspective Step 2 outlines the necessity for skill mix assessment to determine the required nursing competence, coupled with Step 6 which requires an evaluation of the clinical outcomes measuring the impact on patient care. More recently the Report of the Review of Undergraduate Nursing and Midwifery Degree Programmes (Department of Health 2012b) sets out key recommendations for the continued development of undergraduate nursing programmes as a supply source to meet evolving service demands, coupled with recommendations on nursing student workforce planning. The importance of this cannot be underestimated, particularly in regard to succession planning.

The culmination of these developments in the profession of nursing and midwifery in Ireland is the provision of a more responsive profession ready to meet the demands of health service reconfiguration and redesign to meet the evolving needs of service users. This is particularly notable in the case of Emergency Care in Ireland, where particular emphasis has been placed on the development of Registered Advanced Nurse Practitioner (RANP) roles to meet the growing demands of emergency care delivery in Ireland.

June 2013 marked the publication by the EMP of a document titled 'Guide to Enhance ANP Service across Emergency Care Networks in Ireland' (HSE 2013b). This document contributed to the workforce planning agenda for the HSE and DOH. From a leadership and workforce planning perspective the recommendations of the Guide in relation to enhancing ANP services across emergency care are significant. It provides guidance around the numbers of RANPs required in EDs and LIUs, and promotes standardisation of the role and scope of practice of RANPs in emergency settings. From a recruitment perspective the standardisation of selection, appointment and education towards registration was recommended. Emergency nurse career progression and succession planning was included in the recommendations. Subsequent to the publication of this report a national grade code for candidate ANPs has been agreed with DOH to support recruitment into these roles.

The recommendation in the report (HSE 2013b) is complementary to the output of this project, the ED Workforce Planning Framework which supports examination and planning of workforce requirements for the entire nursing team and which will ensure an integrated nursing workforce planning approach through effective leadership. Leadership in healthcare is complex due to the many different professionals and researchers, from varying disciplinary backgrounds who come together to deliver care. Bringing that complex, expert and highly educated workforce together to deliver an integrated and patient-centred service is a particularly demanding and challenging task. Managing such a complex and varied workforce requires the fostering of collaborative work practices and strong clinical governance.

1.2.3 National and International Health Workforce Planning Policy Agenda

In order to understand the necessity for nursing workforce planning it is vital to consider the national policy context for the nursing workforce. It is reasonable to consider cost control and access as two of the significant policy drivers for appropriate nursing workforce planning. Given that the healthcare workforce constitutes approximately 70% of total healthcare costs (Harvey et al 2009; HSE 2012a) with nurses and midwives as one of the largest stakeholders, the effective and efficient management of this resource is critical. Notwithstanding this, the potential improvement in health outcomes through greater strategic management and resourcing of the nursing workforce justifies the necessity to examine the utilisation and deployment of this workforce (Joint Learning Initiative 2004).

With many countries experiencing economic challenges, demanding immediate and critical review of public spending, it is inevitable that healthcare spending will come under scrutiny. In Ireland, the public health service is under increased

pressure to deliver significant savings, as part of the Programme for Government. This follows a number of unprecedented years of retrenchment in the Irish health service in which budget reductions of €1.75bn were made, and the health workforce cut by 8,700 WTE since peak employment levels in 2007, with further reductions through incentivised early retirement and career break schemes. In addition, attention is focused on the delivery of the health reform agenda with the introduction of hospital groups, which will demand further restructuring of the health workforce to meet this new health delivery model.

Similarly, the breadth of the focus is evident in the UK in the proposed reduction in public sector employees of over 300,000 and spending cuts of £81bn by 2014/2015 (Office for Budget Responsibility 2011) along with significant healthcare reform through the Health and Social Care Bill 2011 (DoH UK 2011). The UK Audit Commission (2010) outlines the significant incremental rise in nursing numbers from 163,000 in 1999 to 207,000 in 2009, therefore as nurses represent a significant proportion of health spending and these are areas where considerable efficiency savings are being sought in the UK.

However the struggle to balance health care costs with quality and timely access to care challenges policy planners in all healthcare arenas. The Northern Ireland Audit Office published a report in 2008 titled 'Transforming Emergency Care in Northern Ireland' (2008). This report emphasised the increase in activity level within the 21 EDs and minor injury units in Northern Ireland. Key recommendations within this report were, the need for robust information, matching systems to patients' needs, and appointment of senior clinical decision makers. The report stresses that lengthy waits are not appropriate for emergency patients as services struggle to meet the 12 hour waiting time target set in 2006. A subsequent report from the Northern Ireland Audit Office relating to 2011 and 2012 performance indicated the failure to reach the 95 per cent target for patients waiting four hours or less for Accident and Emergency (A&E) treatment. All Trusts in Northern Ireland experienced a decline in this performance in 2011-12 as the numbers waiting more than 12 hours for treatment increased by 2,832 to 10,211 (an increase of 38.4 per cent). Of the 10,211 patients waiting longer than 12 hours at A&E in 2011-12, 99.5 per cent were in the Belfast, Northern and South Eastern Trusts (Northern Ireland Audit Office 2013).

In 2006 the HSE developed a dedicated Emergency Department Task Force. The role of the task force was to facilitate the implementation of the HSE's framework for addressing problems manifesting in emergency department services and to work closely with hospitals experiencing difficulty supporting their ED's. The key cause of delays for patients in the ED, were identified in the report of the taskforce (HSE 2007) as variations in the hospitals and community's capacity and capability and control processing. These variations included;

- Variation in the level and availability of clinical decision making,
- Variation in bed capacity,
- Variation in the availability of diagnostics,
- Variation in internal control processes and
- Variation in community and continuing care capacity and processes.

The taskforce identified a number of potential patient centered high impact changes to the delivery of emergency department services such as zero-tolerance for trolley waits, targets for Primary Community and Continuing Care (PCCC) and the introduction of further targets in relation to waiting times in Emergency Departments.

As a consequence of unprecedented economic constraints, with an ever increasing level of demand for health services due to a growing and ageing population and increase in chronic diseases, policy architects aim to reconfigure health systems to deal with these developments. Consequently new and innovative approaches to health care organisation and deployment of healthcare workforces have been and continue to be explored (Dubois & Singh 2009). The challenge for health policy planners is one of a necessity to balance resource allocation, utilisation and cost whilst also maintaining positive patient outcomes (Department of Health & Children 2001a; Simoens et al 2005; Aiken & Cheung 2008). This has placed increased emphasis on the economic value of the nursing resource to deliver effective yet efficient care (Newbold, 2008), with emphasis on the potential vulnerability of the nursing workforce to changes in policy in such an era of health reform (Buchan & Seccombe 2011).

Attree et al (2011) reviewed nursing workforce policies in five European countries, Denmark, Finland, Ireland, Portugal and United Kingdom. The background to this study was the imbalance in registered nurse supply and demand globally, with significant and recurring issues that impact on healthcare systems, organisations, staff and patients. The methodology included a review

of relevant healthcare databases and policies in the five countries from 2003 – 2007. The study analysed nursing workforce planning policies across these countries in order to improve evidence based workforce policy development. The policy review asked the following questions:

- What are the nursing workforce policies, strategies and best practices in the five countries?
- What are the common nursing workforce policy themes?
- What policies/interventions might improve the nursing workforce situation?

More similarities than differences in nursing workforce policies and policy themes across the five nations were identified. The challenges involved in evidence based policy making, including the requirement for high level, high quality, reliable, robust data (Attree et al 2011; Summerskill & Valori 2005; Muir Gray 2001) were identified. The recommendations from the report were as follows:

- National healthcare human resource minimum data sets need to be established
- Multi professional healthcare workforce planning should be initiated and integrated with service and financial planning systems
- Workforce policies should be evidence based and fully supported at national, organisational and professional levels on a long term basis
- Professional organisations need to be proactive, represent nurses and nursing and present evidence based policies for nursing roles, development and reward
- The implementation and effectiveness of nursing workforce policies should be evaluated robustly
- The nursing workforce should be identified as a national research priority and allocated dedicated funding
- In order for policy to be informed by research the gap between the research and policy cycles should be closed.

The review highlighted that Ireland has achieved significant outcomes in relation to policy development and this work forms a strong foundation for workforce planning methodologies and framework. Multiple policies and reports have been developed nationally to concentrate on workforce modeling, to calculate current supply and predict demand for services into the future. A sample of these includes;

- Report of the Working Group on the Effective Use of the Professional Skills of Nurses and Midwives (Department of Health & Children 2001b)
- Report of the Medical Manpower Forum (Department of Health & Children 2001d)
- Current and Future Supply and Demand Conditions in the Labour Market for Certain Professional Therapists, The Bacon Report (Department of Health & Children 2001a)
- Final Report of the Nursing and Midwifery Resource Towards Workforce Planning (Department of Health & Children 2002)
- National Taskforce on Medical Staffing known as the Hanly Report (Department of Health & Children 2003)
- Report of the Working Group to examine the development of appropriate systems to determine nursing and midwifery staffing levels (Department of Health & Children 2005)
- An Integrated Workforce Planning Strategy for the Health Services (Department of Health & Children 2009a)
- A Quantitative Tool for Workforce Planning in Healthcare (Department of Health & Children 2009b)
- Strategic Framework for Role Expansion of Nurses and Midwives, Promoting Quality Patient Care (Department of Health 2011b)

In the UK similar reports produced include; A Health Service for All the Talents DoH UK 2000; UK Nursing Labour Market Review RCN 2008a; UK Audit Commission 2011; UK Health and Social Care Bill DoH UK 2011; NICE Guidelines 2014a,b,c,d,e). Additionally some reports focus on the shift in service delivery from acute in-patient care to primary care (RCN 2008b; DoH UK Health & Social Care Bill 2011). According to the RCN (2010a) nursing workforce planning at local level is critical, as ideally systems at local level should guide and inform regional and national nurse staffing levels. Such an approach is more likely to produce richer and more consistent information on the nursing workforce. Nursing management should be informed with appropriate guidance on the most appropriate methods to determine nurse staffing levels and skill mix. There should be a consistent method used across the health service which would meet the evolving needs of health service redesign, technological advances, and user's expectations of the quality of care that they should receive. This is evident in the recent publication of the NICE guidance on safe staffing for nursing in adult inpatient wards in acute hospitals, which sets out recommendations on the factors to be systematically assessed to determine the appropriate nurse staffing establishment.

1.3 WORKFORCE PLANNING METHODOLOGIES AND APPROACHES

Workforce planning helps to ensure that there are sufficient staff available at the right time, with the right skills, diversity and flexibility to deliver high quality care to meet the needs of individuals and communities (DOH, UK 2000). A systematic assessment of future workforce needs is about defining current supply and service requirements, assessing gaps in supply and service provision and consideration of future supply and requirements (Ripley 1995). Workforce planning is to match demand for staff with its supply, ensuring the appropriate personnel are available in the right place and at the right time to meet the demand for their services (Hall & Mejia 1998; O'Brien-Pallas et al 2001). The question "How many nurses do we need?" is an important question but is not always easy to answer. It will be influenced by the methods used to determine service need and demand, the funding stream available and resources/workforce supply.

Several factors have influenced the necessity to determine the most appropriate nursing workforce including: the moratorium on recruitment leading to a reduction in the available nursing resource, rising healthcare costs, decreasing healthcare budgets, increasing healthcare demand/acuity, an increased focus on the quality and safety agenda and role development to name but a few. The assessment of methodologies to determine optimum nursing workforce continues to be fraught with multiple complex challenges, the most fundamental of which is the definition of nursing work. Accurately defining and agreeing what constitutes nursing, nursing work, ergo nursing workload (Needham 1997, RCN 2003a; West, Barron & Reeves 2005; Morris et al 2007) is critical to accurately measure it. Nevertheless gaining consensus on what constitutes nursing work thus facilitating its measurement has generated significant debate within the literature which has limited the ability to definitively endorse one or more methods to determine nurse staffing (Morris et al 2007).

According to an early review by Arthur & James (1994), of methods to determine nurse staffing, a perfect nursing workload measurement system is is unlikely to be identified. In their review six nurse demand methods were identified, categorised as consensus methods (intuitive, consultative), top down methods (staff norms and formulae) and bottom up methods (dependency, activity analysis). Moreover they suggested that workload measurement systems be used as a mechanism to *indicate* rather than absolutely define nursing work. Instituting this concept of nursing workload measurement as an indicator rather than an absolute measure is acceptable, particularly given the further and more recent developments in nursing workforce planning and measurement to date, whereby the nursing workforce must be capable of responding to service changes and fluctuating demand. Using just one concept of measurement as an absolute measure of nursing workforce/workload may be misleading, and result in the implementation of inappropriate nurse staffing levels. The triangulation of methodologies to ensure more robust and reliable workforce decisions is advocated.

The importance of effective planning of the nursing workforce results from the wider challenges of managing shortages of nurses across many countries (Buchan 2002; Joint Learning Initiative 2004; Buchan & Calman 2005; Buchan 2009; Potempa et al 2009) to more locally focused strategies to plan for the effective utilisation of the nursing resource within contracting health budgets (Buchan and Dal Poz 2002.). Thus workforce planning challenges on two levels; firstly at **strategic level**, where there is the necessity to plan and forecast for an adequate supply into the system to meet current and future service requirements, along with value for money, quality and safety by effectively using this resource. Secondly, at **operational level** whereby planning is focused on the appropriate capability and capacity of this resource to meet service demand and quality safe outcomes, within a financial budget. These are commonly referred to as the 'Top Down' and 'Bottom Up' approaches which are discussed in greater detail below.

No one approach is a one size fits all, with merits of each approach pertinent to the particular workforce challenge. Table 2.0 on page 25 outlines the bottom up and top down approaches.

Table 2.0: Approaches to Workforce Planning

Approaches to Nursing Workforce Planning	
Top down approaches	**Bottom up approaches**
Norms and Formulae Method	Professional Judgment Method
Expert Opinion Method	Regression Analysis Method
Benchmarking Method	Timed-Task Activity Method
Mandatory Nurse Staffing Ratios Method	Workload-Quality(Acuity-Quality) Method

The criticisms of the unscientific nature of some of the methods outlined above, led to the emergence of further and more robust methods to determine the appropriate nursing workforce. Albeit, some of the earlier scientific measures, when used in isolation, failed to demonstrate consistent, reliable and accurate nurse staffing models. These included the use of casemix as a predictor of nurse staffing need (Campbell et al 1997), and the dependency driven method (criteria for care), task oriented method (financial information project) and care plan driven method (excelcare) as examined in a UK study by Carr-Hill & Jenkins-Clarke (1995). Primarily the concerns with these strategies were the potential failure to align the quality of care delivery (Rischbieth 2006).

In addressing these issues of singular, unscientific methods to determining the appropriate nursing workforce, the Department of Health UK, in response to the Audit Commission Report (2001) commissioned a comprehensive review of nurse workforce planning systems, undertaken by Hurst (2003). The review identified five key nursing workforce methods and included: professional judgment; nurses-per-occupied bed; acuity/quality; timed task activity and regression based models. Somewhat later, the RCN (2010a) outlined a range of methods to determine nurse staffing. Consistent with Arthur & James (1994) and Hurst (2003) the RCN identifies that such methods can vary from top down basic methods comparing staff number to bed/population number to more detailed methods integrating acuity, population number, dependency and activity of each member of the healthcare team (RCN 2010a). These approaches – which are referred to as "Bottom Up" are described in greater detail in this chapter.

1.3.1 Top Down Approaches

Top down approaches are described as those approaches which calculate staff requirements on the basis of predicted health needs of a population using pre-determined formulae's (Hurst 2002, RCN 2003a). They include: Norms and Formulae; Expert Opinion; and Benchmarking. Examining the methods more closely, the *top down approach* uses a crude method of benchmarking between similar hospitals based on the number of occupied beds and staffing ratio. The benchmarking method has been the subject of criticism, particularly in the UK where more widely available benchmark data are available and thus may perpetuate the use of this method (Hurst 2006). As developments in workforce planning were made, the top down methods progressed to take account of patient dependency and acuity into this model, with predetermined staff multipliers in the late 1980's and early 1990's. Notwithstanding this, there was evidence to suggest that these methods did not take account of developments in nursing practice and skill mix (RCN 2003a, Hurst & Quinn 1992).

Norms and Formulae Method

The norms and formulae method is described as a 'top-down' method used for strategic planning. An example of this method would include using standardised levels of Nurses Per Occupied Bed (NPOB). This method was used in the early stages of workforce planning in the UK (Hurst 2002). In this type of approach the nurse staffing establishment is set on the basis of the formulae to calculate the ward establishment. For example if the nurses per occupied bed calculation is set at 1.34, bed occupancy is multiplied by 1.34 to determine the staffing establishment.

Advantages of this method:

This method has been used as a quick and easy way to determine staffing requirements. It can also be used to support decisions made using the professional judgment method (bottom up approach).

Disadvantages of this method:

A reported weaknesses of this method however, is that it is not sensitive to changes in patient dependency or acuity, nor does it take into account staff skill mix, or organisational characteristics such as layout of the clinical setting.

Expert Opinion Method

The expert opinion method is described as using guidance on nurse staffing levels as advised by professional associations such as British Association of Critical Care Nurses (2009); British Association of Perinatal Medicine (2010). These guidelines incorporate research evidence, international experiences and advocate the use of systematic approaches incorporating patient variables such as dependency/acuity, along with staff variables such as skill mix (NHS Scotland 2013). This method was used in the emergency care setting with the guidance of the College of Emergency Medicine in the UK where a Baseline Emergency Staffing Tool (BEST) (RCN 2012) was developed by the RCN in collaboration with the Faculty of Emergency Nursing (FEN) in the UK, and is endorsed by the College of Emergency Medicine in the UK. This tool however requires data collection before appropriate staffing levels can be determined.

Advantages of this method:

Guidelines advocate the use of systematic approaches based on evidence and expertise

Disadvantages of this method:

The authors of all of these guidelines emphasise that their recommendations are the minimum requirements and are subject to change, and should be treated as a starting point, taking the local context into account.

Benchmarking Method

The benchmarking method is where benchmarking databases operate on the principles of the widespread use of a consistent approach/tool to measure and determine nurse staffing establishments. Examples of such databases include those in the UK as reported in the Skills for Health Workforce (Hurst 2010). Applying a method such as the Safer Nursing Care Tool (SNCT) facilitates healthcare organisations to compare their nurse staffing levels (Shelford Group 2014).

Advantages of this method:

This method provides a quick and easy reference and comparator with similar settings.

Disadvantage of this method:

There is no guarantee that the comparator, on which the benchmarks are based, has the correct nurse staffing levels.

Mandatory Minimum Nurse Staffing Ratios Method

Mandatory Minimum Nurse Staffing Ratio's method is where a minimum ratio of staff to patients is set. As consequence of reports of short comings in patient care such as the Francis Report (Francis 2013) and Keogh Report (Keogh 2013), individual states along with governmental health agencies, have legislated for, or are considering legislating for mandatory minimum nurse staffing ratios.

Advantages of this method:

The significant advantage of setting mandatory minimum nurse staffing ratios lies in the standarisation of levels with no variation locally.

Disadvantages of this method:

The disadvantage, however, is the lack of specification on the skill mix or consideration of the impact of variation in patient acuity or complexity.

Internationally there are examples of mandatory minimum nurse staffing ratios, which include levels for emergency care. These include California (USA), Victoria (Australia) and New South Wales (Australia). In the state of California mandatory minimum nurse staffing ratios were introduced in 1994 as a consequence of concerns over shortcomings in patient care (Spetz 2004). The mandatory nurse ratios are exclusive of nurse leaders. For emergency care, the set ratio of nurses per patient is 1:4 on duty. To date, California is the only state in the US to set mandatory levels. Reported benefits of this intervention include lower mortality rates. However, there are cost implications to be considered as part of the implementation process.

In Australia, two states have mandated minimum nurse staffing ratios. The state of Victoria cited patient safety and decreasing nurse staffing numbers as justification to set nurse staffing ratios in 2001. These ratios were established across a wide variety of care settings, in emergency care the nurse to patient ratio was set as 1:3, along with a nurse in charge and also triage for group 1 and 2 emergency care departments (Gordon et al 2008).

New South Wales also introduced nurse staffing ratios in 2010 (NSWNA 2010) and are currently reviewing these ratios inclusive of mandatory minimum staffing for emergency care (NSWNA 2014). In regard to emergency care the staffing ratios are as follows: ED Level 4-6, nurse to patient ratio of 1:3 along with a nurse in charge and triage nurse for the morning and night duty shift, with an additional triage nurse for the afternoon shift. ED level 3 nurse to patient ratios are set as 1:3, along with a nurse in charge and triage nurse for all shifts. As a relatively new initiative the evidence on the benefits requires research.

However it should be noted that these international minimum staffing ratios described are not directly transferable to the Irish emergency setting due to variations in model of service delivery, service demand and disparity in healthcare professionals roles and remits.

Despite the wealth of debate on the introduction of minimum nurse staffing levels, and in particular the most recent debate in the UK, NICE (2014 a,b,c,d,e) have recommended guidelines to determine nurse staffing establishments, rather than minimum nurse staffing levels. These guidelines currently apply only to adult inpatient wards in acute hospitals however guidelines for the emergency setting are in development and due to be completed mid 2015. This is important in the context of the emerging debate in Ireland, due to the similarities in the construction of health professional roles and healthcare delivery models across both jurisdictions.

1.3.2 Bottom Up Approaches

Bottom up approaches are those driven by factors common to influencing nursing workload to calculate the required staffing establishment. A significant body of evidence on this work has been established by Hurst (2002). Bottom up approaches include; Professional Judgment; Regression Analysis; Timed-Task Activity; and Acuity-Quality.

Professional Judgment Method

This method uses as its name states, the professional judgment of nurse managers to determine nurse staffing level. Needham (1997) suggested that any model of nursing workload measurement must capture not only the technical and scientific but indeed the essence and intuitive work of nursing. He further suggests that one must be able to measure the 'who and what', with the necessary complexity of assuring quality care, deployment and demand on nursing time. Capturing the essence of the intuitive work of nursing, was the subject of an exploratory study by Berkow et al (2007) who sought to elicit chief nurses' professional judgment of appropriate staffing enhancements in given scenarios. However, the study findings revealed significant inconsistencies in consensus on appropriate staffing, demonstrating the unreliability of this method as a stand-alone measure. The unscientific nature of this method has been criticised by many for failing to address the scientific basis of nursing workforce planning (Hurst 2003; Reid, Kane & Curran 2007). Whilst this may be the case, it does however, have value according to some authors who suggest that when nurse clinician experts are used, it offers a fast, easy and reasonably reliable way to determine staffing requirements (Hurst 2010).

It is also similar to the consultative method first described by Telford (1979), whereby expert healthcare professionals were consulted with to agree the number and skill mix of the nursing team.

Advantages of this method:

The advantage of this method is that it provides a quick and easy method to determine nurse staffing based on senior nurse managers knowledge and expertise.

Disadvantages of this method:

The disadvantage of this method is its subjectivity and lack of a systematic or scientific basis (empiric evidence is absent).

Despite the disadvantages, this method it is still one of the most commonly used methods (NHS Scotland 2013). It has also been used with other methods in a triangulated approach, and it has been included in the recently published NICE nurse staffing guidelines (NICE 2014 a,b,c,d,e).

Regression Analysis Method

The regression analysis method uses regression based statistical modelling to predict the required number of nurses for a specified level of activity (Hurst 2003). It was developed by authors seeking to predict the number of nurses by examining the demand side of nursing. Regression is used to identify determinants of workload for each type of ward and staffing levels, when the care delivered was good quality, and that which is statistically significant (RCN 2003b). This method assumes the predictor as the independent variable, and the level of staff required as the dependent variable. Therefore all that should be required is data on the independent variable in order to predict the number of staff/dependent variable (Hurst 2003, NHS Scotland 2013).

Advantages of this method:

The advantage of this method includes its usefulness in determining staffing requirements in predictable clinical services, such as day case services, where the number of admissions is planned.

Disadvantages of this method:

Many clinical settings such as the Emergency setting have multiple variables which need to be taken account of. This can pose a disadvantage for this method as each variable must be taken into account. This method requires the expertise of a statistician to set up the process, with input from nurse managers and in order to do this successfully across the healthcare system, agreement in relation to the way the variables are calculated etc, would be required by all stakeholders. This complex exercise may result in lack of ownership by nurse managers engaged in the project.

Time-Tasked Activity Method

This method attaches care times to nursing interventions to determine nurse staffing level estimations (Hurst 2010). One such approach designed to estimate appropriate nurse staffing level using this method is the GRASP approach (Anderson, 1997), which attaches care times to interventions in patients' care plans before adding ward overheads (direct and indirect care activity of the nursing team along with time out figures) to cover indirect patient care activities. Measuring and identifying care times required for activities can be used to estimate nursing hours per patient day.

Advantages of this method:

This method offers an electronic evidence based nurse staffing method. It drives evidence based care planning and delivery at clinical level within the healthcare system. There are a number of commercial products available in the market offering an electronic package to manage this method.

Disadvantages of this method:

The weakness of this method is that it requires significant investment in the development and maintenance of evidence based care plans/care pathways, which can add considerably to nursing time. This method is often provided as a commercial product electronically which can be costly to implement and maintain.

Workload-Quality (Acuity – Quality) Method

This is a sophisticated method of determining nurse staffing establishment and has been used widely in the UK (Hurst 2010). This method incorporates multiple measures of workload including: occupancy, throughput, patient dependency, direct patient care times, ward overhead data and quality. Across the UK, this data has been used to identify best practice wards, from which to compare. Best practice wards are those identified as achieving the highest quality outcomes, measured through audit of the nursing care record for evidence of nursing assessment, planning, implementation and evaluation, specific to patient elements. An example of a patient specific element is the fundamental nursing concept of pressure sore prevention.

Advantages of this method:

The advantage of this method is that it is responsive to the dynamics of the clinical area in question, taking account of patient throughput, dependency, occupancy etc. The model allows for nurse staffing levels to be flexible in response to the changing profile of the clinical area. This model is useful in clinical areas where there may be fluctuating nurse workloads and patient throughputs, which is often the case in an ED setting. The acuity-quality analysis, involves direct observation of nursing activity which is very useful, not only in determining the care time per patient dependency, but is also a valuable exercise to identify and highlight opportunities for nursing focused activities which can inform continuous process improvements (RCN 2003b).

Disadvantage of this method:

This method demands a significant level of investment. This investment should include the data collection resource requirement. The data must be collected in a consistent way across sites to ensure data validity which may require staff training in this skill.

Conclusions

Taking all methods discussed into account, the decision on which method to use depends on an analysis of the current resources and the skills available within the organisation to undertake any of the methodologies effectively (Buchan 1996; Buchan 1999; Buchan 2000; Buchan 2002). Nonetheless the increasing use of triangulated methods can be seen as an indicator of their applicability and popularity within the profession. Supporting the use of these methods are the multiple reports and guidance publications available to nurse managers on the practical implementation of these methods (Buchan 1999; Buchan 2000; Buchan 2002). Similarly, there has been widespread proliferation of readily available electronic tools, databases and toolkits to collect, collate and compare results (Association of UK University Hospitals (AUKUH) 2009; Skills for Health Workforce in Hurst 2010; NHS Scotland 2010).

The example of the AUKUH (2009) incorporates dependency measurement using the tool developed by Ball & Oreschnick (1986) coupled with quality measured through nursing sensitive outcome measures which are specific to nursing care. Common to each of these resources is their pursuit of a consistent approach to nursing workforce planning which is a key element outlined in the RCN (2008b) policy position paper on nurse staffing.

The application and implementation of consistent approaches to nursing workforce planning supports the ability of organisations to benchmark and compare, which facilitates an additional method, now known as benchmark workforce planning (Hurst 2010). The value of available benchmark data lies in the provision of transparent, valuable staffing information by hospitals known for high quality care.

Across the UK data has been used to identify best practice wards in benchmarking exercises. Best practice wards are those identified as achieving the highest quality outcomes, measured through audit of the nursing care record for evidence of nursing assessment, planning, implementation and evaluation, specific to patient elements. This has led to the creation of highly developed databases to support decisions on nurse staffing, using this method, complete with staffing multipliers. Possibly one of the most significant workload quality method developments in this field is the Safer Nursing Care multipliers (Smith et al, 2009; Hurst, 2008; Harrison, 2004), which are not applicable to the emergency care setting. The strength of the Safer Nursing Care tool is that it combines the patient dependency definitions with empirically determined staffing requirements resulting in ward staffing formulas, which is an effective model of nursing workforce planning components. This tool was developed by pairing staff activity with patient dependency alongside ward quality data (e.g. pressure ulcer prevention), to ensure the multipliers were those from best quality wards. In terms of the use of benchmark databases, Hurst's 2008 large scale study generated what is now deemed as reliable benchmark data within the UK on ward staffing, patient dependency, nurse workload and quality.

Reliably determining nurse staffing requirements is deemed to require triangulation of methods (Crouch & Williams 2006; RCN 2008a; Flynn 2009). Similarly Morris et al (2007) who offer an alternative nursing workload model demonstrate consensus in their approach to Hurst (2003, 2008) and RCN (2010a). From their review of the literature they believe that measurement of nurse dependency alone does not define nursing workload. They contend that dependency only measures demand on nurses' time from the patient's perspective which ignores the many other aspects of nurses' work such as non patient care related activities. Regardless of the methods used the fundamental principles of each method is to determine/predict the number and skill mix of the nursing team to provide the necessary and appropriate level of care safely and effectively. Similarly Buchan (2007) generated key points from various reports for effective work force planning. These work force planning principles included:

- The main functions and stakeholders e.g. finance, service planners, education providers are committed to and involved in the planning process with clear lines of responsibility and accountability being defined.
- Build from a structured information base on current staffing, staff budgets and relevant activity

whether planning for a ward, organisation, region or country.

- Assess work force dynamics and flows between sectors and organisations within the system being planned for – assessing sources of supply and turnover.
- Develop an overview analysis to identify need for and scope for change.
- Develop and agree a set of planning parameters linking workforce and activity data.
- Use 'what if' analysis to model different scenarios of demand for services and related staff in profile.
- Develop an agreed workforce national plan which aggregates local and regional plans.
- Establish a framework to monitor staffing changes in comparison to the plan – develop a cycle of review and update.

1.3.3 Summary of approaches to workforce planning

Recent reports such as the Francis Report (2013) and RCN (2013) highlight the need to implement robust nurse staffing measurement and monitoring. There is evidence of a clear shift towards more robust scientific triangulated methods to determine the most appropriate, cost efficient and safe nurse staffing workforce inclusive of a range of skill mix. The newly published NICE guidelines on safe staffing for nursing in adult inpatient wards in acute hospitals advocate this approach outlining principles for determining nurse staffing requirements based on a) a systematic approach taking into account the patient, ward and staffing factors; b) the use of a decision support tool endorse by NICE; c) the use of informed professional judgement to raise red flag events which refer to outcomes; d) assessment of nursing care activities to inform judgments. These guidelines encapsulate the principles of a triangulated approach, which ensure that multiple factors affecting care standards are considered in order to determine the optimum nurse staffing level. RCN (2013) also suggests that minimum staffing levels should be considered, a change from its 2010 policy paper on nurse staffing levels (RCN 2010a).

The literature suggests that there is no 'one solution to fit all' for workforce planning, and in fact it may be necessary to use a mix of a number of available methods. The conclusion therefore is that the triangulation of a number of methods can be used to support nurse staffing determination. This analysis should be undertaken at local level to inform local nurse staffing requirements. Whilst this may initially be resource intensive, it will enable a database of evidence, which will be capable of comparison across both local and national settings, which will further support robust analysis and decision making on nurse staffing configurations.

1.4 WORKFORCE PLANNING IN EMERGENCY CARE

This section focuses specifically on the development of workforce planning tools and methods specific to emergency care. It includes individual tools, such as dependency measurement tools, along with more robust workforce models, which were developed for particular jurisdictions (NSW DoH ED Project 2010).

The first tool reviewed is that known as the Jones Dependency Tool (JDT). O'Brien et al (2007) used the JDT prospectively to collect data on patients attending an ED department. The aim of their study was to utilise the validated tool to establish patterns of patient dependency, thereby informing present and future requirements regarding nursing numbers and skill mix. A two week period was used for this study which took place in Bristol Royal Infirmary.

The JDT consists of four dependency levels as follows:-

1. Self Caring
2. Moderately dependant
3. Highly dependant
4. Totally dependant

A total of 2,014 new patients were included in this study. The data was analysed and for most patients there was no change in their dependency level between arrival and departure. A small percentage of patients (3.6%) had an increase in their dependency level. Patients in a higher dependency group were likely to be treated in the resuscitation area. Weekdays and weekends showed no statistical difference in the distribution of patient dependency. Higher dependency patients were recorded between 20.00 and 08.00hrs

This study made it possible to predict the dependency levels of patients attending the ED department, although the authors did acknowledge that the time

frame for data collection was short. This study could prove valuable to workforce planning in emergency settings in Ireland, however the current system uses a triage category for the patient on arrival to the ED which gives a very crude measure of patient dependency (as it was originally developed as a prioritisation framework).

Patient dependency level provides meaningful information in relation to informing appropriate skill mix as well as workforce planning toolkits and educational programmes. A recommendation from this study was the need to have consensus on defining dependency standards and recording activity analysis to link with dependency levels and match to competencies of nursing staff.

Crouch & Williams (2006) tested the reliability, validity and generalisability of the JDT. Six Emergency Departments in England were included in this study and 840 adult patients were included. Data collected included patient demographical information, Registered Nurses rating of patient dependency and JDT Rating. There was a significant correlation between triage rating and the JDT. From this study the JDT is applicable in all ED settings in the UK.

Sakr et al (2003) compared the safety and effectiveness of patient care and costs in a nurse practitioner run Minor Injury Unit (MIU) and a doctor led ED in the UK. Fewer treatment errors and shorter waiting times were reported by a nurse practitioner service. Care co-ordination teams were introduced to EDs to respond to the increasing numbers of patients with complex problems, such as the frail elderly. Comparative data is not available on the introduction of Care Co-ordination teams where teams were staffed by nursing and allied health personnel.

Callender & Schofield (2011) reviewed ED workforce models internationally and identified individual roles within ED's as follows:

- Accident and Emergency Physician
- Emergency Nurse Practitioner
- Advanced Clinical Nurse
- Non-Medical Technicians
- Communications Clerk
- Equipment Co-Ordinator
- ED Support Officer

The majority of these roles produced benefits and met the intended purpose (matching demand with capacity) however the effective impact of these various roles from a cost and clinical outcome perspective is not available. Other settings such as primary care found that patient health outcomes were similar for doctors and nurses (Laurent et al 2000).

Higginson et al (2010) reviewed demand and capacity planning in an emergency department. This project was conducted as part of a quality improvement programme. An in-depth analysis of demand and capacity for an ED department in the UK was conducted in 2009. Techniques from other industries were used to describe a rigorous approach to capacity planning. The findings from this study confirmed that robust capacity planning is vital and is often poorly done. Understanding demand and in particular the variations in demand is critical to success.

Sun et al (2009) studied forecasting daily attendances at an ED to aid resource planning. The background to the study was the need to forecast attendances for micro and macro level planning. Daily patient attendances for the ED in a general hospital were recorded from July 2005 to March 2008. Patients were grouped into three acuity levels – P1, P2, P3. P1 being the most acute and P3 being the least acute. P1 attendances did not show any weekly or yearly periodicity. P2 showed periodicities, and P3's attendances were significantly correlated with the day of the week, month of the year. This study proved that time series analysis for predicting emergency department workload can be used to plan staff rostering and resource planning.

Sutton et al (2008) researched children with special health care needs to determine whether an ED based advice and co-ordination programme was feasible and could prevent or accelerate ED care for these patients. The group defined children with special health care needs who frequently attended the ED at a large tertiary children's hospital in Melbourne. These patients were enrolled in an ED based co-ordination programme called the Accelerated Care Through Emergency Programme providing 24 hour mobile phone access to experienced ED nurses. Usage patterns and rate of ED visits and waiting times in ED were tracked. Parental satisfaction and the cost of the programme were also assessed. A co-

ordinated approach towards the provision of health care for families with chronic medical conditions resulted in enhanced family capacity to manage their children's conditions in the community. This project has significant transferability in relation to the planning for the ED in the new National Children's Hospital.

Ogilivie (2005) conducted a systematic review of paediatric hospital based acute assessment units. Thirteen studies of assessment units based in a paediatric department were identified. Three showed a decrease in emergency medical admissions, one found a reduction in the number and proportion of admissions requiring overnight stay, and one found reduced admissions for certain groups. Nine studies of assessment units based in EDs were included. One showed that an ongoing rise in paediatric rates had stopped, despite a continuing rise in ED attendances. One study showed that after the intervention the proportion of children with asthma who were admitted fell from 31% to 24%. Two studies from Australia showed that annual paediatric admissions fell by 10% after the introduction of assessment units.

The literature reveals that there is a dearth of workforce planning tools and methods specific to Emergency Care.

1.5 FACTORS INFLUENCING WORKFORCE PLANNING

It is widely accepted that in the current economic context there is a need to examine the nursing workforce and its ability to effectively and efficiently meet service needs. The methodologies discussed in the previous sections provide the necessary constructs for examination of the nursing workforce requirement and contribution. This section examines the importance of measuring the impact of workforce configuration.

Whilst higher nurse staffing levels are evidenced as providing safer care, in this section it will be shown that nurse staffing levels are not the only predictor of quality care and indeed efficient care. Cost is also a justified indicator, given the cost of the nursing workforce and the necessity to achieve greater value for money. This section discusses the key influencing factors in nursing workforce planning and its impact on patient outcomes including:

- nurse staffing level & quality of care
- skill mix
- nurse leadership, environment and engagement
- lean process management.

1.5.1 Nurse Staffing Level & Quality of Care

In any nursing workforce planning review, the nurse staffing level will be a critical factor. To determine the appropriate nurse staffing level/number required to deliver a service, much of the literature has focused on the impact of nurse staffing level on the quality of care delivery and patient outcome. A substantial body of evidence has emerged in the last decade to establish the relationship between staffing levels and quality of care (Needleman et al 2002; Unruh 2003; Seago et al 2006; Rafferty et al 2007; Schubert et al 2008; Van den Heede et al 2009). Undoubtedly prompted by this surge the evidence on this topic has also been the subject of systematic review both within the UK (Currie et al 2005; Lankshear et al 2005; Flynn & McKeown 2009) and the United States (US) (Kane et al 2007). Much of this research is embedded in the acute healthcare setting.

The evidence of this relationship between nurse staffing levels and quality of care is seen across various countries with multifaceted health care systems and processes (Lankshear et al 2005; Kane et al, 2007; Van den Heede et al, 2007; Aiken et al 2014). Many of the studies emanate from the US and Canada (Aiken et al 2001; Needleman et al 2002; McGillis et al 2007; Estabrooks et al 2005) with further studies from Europe (Rafferty et al 2007; Schubert et al 2008; Van den Heede et al 2009; Ball et al 2014). Whilst the evidence suggests a relationship between nurse staffing level and patient outcome, there are a number of factors influencing the widespread adoption of this concept. Firstly, many of the studies were cross sectional (Aiken et al 2001; Aiken et al 2002; McGillis et al 2007; Estabrooks et al 2005; Rafferty et al 2007; Schubert et al 2008; Van den Heede et al 2009), with just two longitudinal studies demonstrating a correlation (Unruh 2003; Seago et al 2006), which creates difficulty in definitively determining a causal relationship. Secondly, Kane et al (2007) highlights that outcome was primarily measured as, a) failure to rescue and b) hospital acquired pneumonia, which have been criticised as lacking nurse sensitivity (Doran et al 2006; Van den Heede et al 2007).

In addressing these concerns regarding nurse sensitivity, US associations including the American Academy of Nursing Expert Panel on Quality Healthcare, The American Nurses Association and the Nursing Quality Forum all outline the range of nursing outcome measures (Mitchell & Lang 2004; NQF 2004; Doran 2011). Similarly in the UK Griffiths et al (2007) outlined a comprehensive review of nursing indicators reported within the literature. In a Belgian study by Van den Heede et al (2009), ten nurse sensitive measures were tested for their impact by nurse staffing level. However the findings failed to reveal a significant relationship between nurse staffing and the outcomes tested. The researchers however suggested that unit level rather than hospital level data and analysis may have yielded more significant and meaningful correlations.

Notwithstanding this evidence the report by the UK Audit Commission (2010) suggests that reducing nursing numbers will not necessarily affect quality of care. The Commission recommends continuous assessment of care quality coupled with benchmarking to other hospitals experiencing lower levels of nurse staffing with the ability to maintain safe patient care. The Commission found the existence of broad disparity on staffing between similar services, a finding mirrored in a review of services by the Scottish Audit Commission (2002). Hence, nurse staffing level in isolation may not necessarily affect patient outcome. Griffiths et al (2007) suggested that there may be other factors linked to quality of care, rather than higher nurse staffing in isolation; for example hospital characteristics. These other factors also demand consideration as part of a comprehensive nursing workforce review to determine the appropriate nurse staffing workforce.

1.5.2 Skill Mix

In examining workforce planning, skill mix forms one of the tenets to securing the most appropriate and efficient workforce. This however demands knowledge of each team members' skills and the potential for growth and development of skills within the team. In determining the appropriate skill mix within the team one must first consider the composition of skills and knowledge required within that team in order to deliver safe and quality care. This can be referred to as the skill mix within the team. Definitions in relation to skill mix can be ambiguous. Skill mix review, according to the literature, is generally on a single profession review of work practices. Notter (1993) argues that these are not skill mix reviews, but instead are grade mix reviews. However a skill mix review should identify the skills that are required to provide a total service and involve all staff groups. According to some authors, skill mix includes the mix of grades, occupations or posts (Buchan & Dal Poz 2002). Others separate skill mix and grade mix as the ratio of registered/licensed to unregistered/ unlicensed (Kane et al 2007) from the ratio of varying competence, qualifications and grades (Spilsbury & Meyer 2001; Ayre et al 2007). Within the UK and Ireland skill mix may refer to the mix of qualified to unqualified, mix of grades, experience and competencies (Spilsbury & Meyer 2001; Ayre et al 2007). Whereas, in the U.S. it may refer to the staff who are licensed and unlicensed (Kane et al 2007). Although the terms skill mix and grade mix are used interchangeably skill mix is significantly different as it determines the range of education, competence and experience which is different from that of grade.

The emergence of new roles and grades, role expansion, role substitutions, role extension and delegation have all added to the complexity of identifying the appropriate configuration of the nursing team along with the skills within the team to deliver quality care effectively and efficiently (Dubois & Singh 2009). Similarly, skill mix can consist of enhancement through role extension, substitution, delegation or innovation through the creation of a new role or worker (Sibbald et al 2004). The publication of multiple reports outlining the enhancement of the nursing role to deliver greater flexibility has increased the level of complexity within roles in determining skill mix and grade mix (NHS Management Executive 1991; Scope of Professional Practice UKCC 1992; An Bord Altranais 2000a, 2010, 2012; Department of Health & Children 2000, 2001a, 2001c, 2002, Department of Health 2011b, HSE 2012b). Similarly there have been changes in the composition of the nursing workforce with the expansion of nursing support roles such as the health care assistant role which is a key role in the emergency setting.

Of importance is a clear understanding of the role, competence, experience and skill of these roles within the nursing team to support decisions on nursing staffing and skill mix (Thornley 2000; Spilsbury & Meyer 2001; Carr-Hill & Jenkins Clarke

2003; Currie et al 2005). The actual cost benefit of the effective introduction of new roles along with expanded roles, should be considered in the nursing workforce plan, to determine the cost effectiveness of decisions (Hewison 2010). Determining cost effectiveness can be seen in the transfer of non nursing tasks to nursing support roles in an effort to reduce cost through more appropriate utilisation of nursing skills (Hendrickson et al 1990; Anderson 1997; Hendrich et al 2008).

Whilst there is research evidence supporting a richer skill mix/grade mix with better patient outcomes, this evidence is less proliferative than that relating to staffing level. Equally this evidence is not consistent in relation to the proportion of staff skills which impact on patient outcomes (Spilsbury & Meyer 2001) ranging from 46% to 96% (Blegen et al 1998; Needleman et al 2001; Cho et al 2003). Additionally the research concentrates on the quality of the nursing team in terms of nursing qualifications with a lesser focus on the integration of nursing roles such as the health care assistant role. Given that many health service organisations are shifting towards reconfiguration of their nursing workforces, this information is vital for decision making. More recently the evidence suggests better patient outcomes associated with nursing workforce which is educated to higher degree level (Kirwan et al 2013; Aiken et al 2014) which is of key importance to the construction of the skill mix within the nursing team as an integrative component to planning the nursing workforce.

There are however a number of studies demonstrating the relationship between a richer skill mix (i.e. higher RN mix) with more positive patient outcomes (McKenna 1995; Blegen et al 2001; Tourangeau et al 2002; Aiken et al 2003). Notwithstanding this, a review of the literature by Currie et al (2005), coupled with a Cochrane review by Butler et al (2011) identified methodological weaknesses with limited evidence on the association between the quality of the nursing team/skill mix and patient outcomes.

Interestingly the move towards doctor substitution by nurses is less well articulated from the perspective of skill mix opportunity (Richardson 1999). However this is an area of growing interest and evidence around the possible substitution of doctors by nurses where nurses can provide equally high quality care and positive patient outcomes has been demonstrated (Griffiths et al 2007; Laurant et al 2009). This debate on skill mix is particularly relevant to the context of emergency care, which has witnessed the most prolific skill mix reconfiguration of nursing and medicine, with the development of the Advanced Nurse Practitioner (ANP) roles. As early as 1998, Dolan undertook a Delphi study to inform and influence decision making by ED nurses, policy makers and ED doctors and others about advanced nursing practice developments. The results of the study suggested the importance of evaluation studies to demonstrate the effectiveness of the Emergency Nurse Practitioner (ENP) role. This study was conducted in the UK; the ENP role is significantly different and not directly comparable to the Irish setting.

From an ED perspective in Ireland, the role of ANP Emergency was pioneered in St James's Hospital in Dublin in 1996. An Emergency Nurse Practitioner at the time was defined as an accident and emergency nurse who has a sound nursing practice base in all aspects of Accident and Emergency nursing with formal post – basic education in holistic assessment, physical diagnosis, in prescription of treatment and in the promotion of health (RCN 1992). Core competencies for this role included: Autonomy in Clinical Practice, Expert Practice, Professional and Clinical Leadership and Research. In Ireland Advanced Nursing Practice was first recommended by the Commission on Nursing Report (1998), supported by the establishment of the National Council for the Professional Development of Nursing and Midwifery (NCNM). In 1999 Small undertook the first evaluation of the role and scope of an Advanced Nurse Practitioner in ED's in Ireland (Small 1999).

A preliminary evaluation of the role of the Advanced Nurse Practitioner was conducted by the NCNM in 2005. A mixed method approach was used including a literature review on advanced practice and interviews with ANPs, nurse managers, stakeholders in developing ANP services and patients. Core concepts were identified and provided a framework for role development in other areas including sexual health, rheumatology, primary care, cardiothoracic, cardiology, breast care, diabetes and emergency cardiology (NCNM 2005). Providing clinical care for patients was seen by ANP's as the main and most important part of the role. The holistic nature of the care provided was seen as central to the role of the ANP. This report also found that ANPs spend most of their time in clinical practice with direct patient contact.

In 2010 The National Council for the Professional Development of Nursing and Midwifery commissioned a joint research team from the Schools of Nursing and Midwifery, Trinity College, Dublin and the National University of Ireland, Galway through an open tender process to evaluate the role of the Clinical Nurse/ Midwife Specialist and Advanced Nurse/Midwife Practitioner, focusing on the clinical and economic impact of the roles (SCAPE Study). Extensive research methods were used to examine the clinical outcomes of clinical specialists and advanced practitioners in Ireland. This study has demonstrated conclusively that care provided by clinical specialists and advanced practitioners improves patient/client outcomes, is safe, acceptable and cost-neutral.

This preliminary evaluation of the role of the ANP in Ireland confirmed that these roles have been successful, with further development of roles recommended. It has however also been recognised, that role overload has led to increased pressure on the ANP (Lloyd Jones 2005). This presents a challenge to nurse managers to assess service need and provide appropriate support for ANPs. Despite this, the success of the institution of these roles within the skill mix of the ED team is clearly evident in the recent publication of the HSE Guidance to enhance ANP services across emergency care networks in Ireland (HSE 2013b). The economic and service value has been clearly demonstrated by these roles, whereby patient access and quality of care outcomes have been enhanced through institution of these roles within the ED skill mix team. Whilst there is significant evidence endorsing the development of advanced practitioner roles in the emergency setting and how this enhances the team skill mix, it should also be noted that there is also the opportunity for expanded roles for staff nurses, as well as HCAs in the emergency setting.

The rationale for skill mix reconfiguration requires careful consideration and measurement to demonstrate both the economic and care quality benefits. Understanding the scope for reconfiguration will provide the right person with the right skills at the right cost delivering high quality care resulting in an efficient, safe and effective service. This does however demand a clear and unambiguous understanding of each role within the nursing team to ensure role clarity capable of delivering such an effective, efficient and safe service.

1.5.3 Leadership, Environment and Engagement

Leadership:

The influence of nurse leadership within the nurse work environment on the ability to deliver high quality care and engagement in nursing work is worthy of attention given the research evidence to support its association (Kazanjian et al 2005; Lake & Friese 2006; Laschinger & Leiter 2006; Pearson et al 2006; Milsen et al 2006; Friese et al 2008; Aiken et al 2008; Bae 2011; Kirwan et al 2013; Aiken et al 2014). It is equally important in the determination of appropriate nurse staffing, due to the impact it can have on the ability to deliver nursing care within the staffing establishment. As early as 1994, Aiken et al (1994) identified hospitals with particular characteristics capable of delivering high quality outcomes by retaining and attracting high quality nursing staff, known as Magnet Hospitals. Further subsequent research has demonstrated the relationship between hospital characteristics of good care and lower patient mortality (Mark et al 2003; Lake & Friese 2006; Laschinger & Leiter 2006; Aiken et al 2008; Friese et al 2008; Gunnarsdóttir et al 2009; Purdy et al 2010). The developing body of research evidence supported the existence of a positive practice environment and flags lower levels of job dissatisfaction as a predictor to staffing loss (Kalisch et al 2010; Tourangeau et al 2010; Purcell et al 2011).

Environment:

In determining the nursing workforce to provide for an effective and safe, yet cost efficient nursing team, nurse managers need to consider the characteristics of their department/unit. Such characteristics include: effective leadership, managerial support, professional autonomy and higher levels of staffing, characteristics which indicate more favourable nurse practice environments. Improved patient outcomes were found in organisations where these more favourable characteristics existed or were at a higher level (Mark et al 2003; Lake & Friese 2006; Laschinger & Leiter 2006; Friese et al 2008; Gunnarsdóttir et al 2009). Thus, given its impact in influencing and shaping the clinical environment, the role of the nurse manager should not be underestimated (Aiken et al 2008; Friese et al 2008). Additionally in a systematic review of factors contributing to nurse job satisfaction, Hayes et al (2010)

cited the role of the nurse manager as pivotal, often with the creation of a positive working environment the result of the actions of the nurse leader (Laschinger et al 2009a; Laschinger et al 2009b) with a subsequent positive influence on patient safety outcomes (Lowe 2008; Squires et al 2010).

Studies have shown that the leadership style of nurse managers has an influence and an impact on nursing behaviours and norms which can then impact (either positively or negatively) on patient outcomes. Two such studies (Adams & Bond 2003; McNeese-Smith & Crook 2003) demonstrated poor nursing leadership styles leading to reduced standards of professional practice, lack of nurse cohesion and inability to cope with workload (Adams & Bond 2003), coupled with inability to retain skilled staff (McNeese-Smith & Crook 2003). Later in an Australian study by Hegney et al (2006), nurses cited a lack of leadership to manage concerns voiced by the nursing staff as contributing to increased negative perceptions of workload, skill mix, morale and stress. Similarly Purdy et al 2010 determined that the relationship between nurses' perception of their work environment and quality/risk had an impact on the outcomes for patients in acute settings. By empowering the work environment the effects were positively reflected in nurses assessed quality of care. The empowered environment positively impacted individual psychological empowerment which in turn had significant direct effects on empowered behaviour, job satisfaction and care quality.

A substantial number of these research studies have used a cross sectional survey approach, with the majority of studies being conducted in the US and Canada (Aiken, Clarke & Sloane, 2002; Mark et al 2003; Lake & Friese, 2006) but with limited studies in Europe (Gunnarsdóttir et al, 2009), the establishment of a direct causal relationship for behaviour change, is challenging. Notwithstanding this the evidence gathered through the studies conducted to date in the US and Canada can offer some insights for the Irish healthcare setting.

Engagement:

The working environment has also been shown to impact on nurse burnout and the ability to engage effectively in nursing work. Burnout as measured with the Maslach-Burnout Inventory (MBI – Maslach & Jackson, 1981) was defined as a three dimensional syndrome of emotional exhaustion, de-polarisation and lack of personal accomplishment. Maslach & Leiter (1997) assumed that engagement was characterised by energy, involvement, and efficacy which are considered the direct opposites of the three burnout dimensions exhaustion, cynicism and lack of professional efficacy. Burnout and engagement are both multi-dimensional constructs. Schaufeli et al (2002) confirmed that burnout and engagement scales, are significantly and negatively related. They recommended the investigation of the relationship of the engagement scales with other job related variables for instance emotional exhaustion that is particularly related to job demands such as work load and time pressure. Whereas cynicism is more strongly related to poor job resources such as lack of feedback, poor job control and lack of participation in decision making.

Virtually all models on occupational health and wellbeing, focus extensively on job stress and the resulting strain, and often neglecting the potentially positive effects of work such as engagement. Requests for a more balanced approach, that could include job strain as well as betterment of employees, has been recommended by several authors including Bakker, Demerouti & Schaufeli (2002, Luthans (2003).

The Job Demands – Resources (JD-R) model is an example of a balanced approach that seeks to explain negative (burnout) and positive (work engagement) aspects of well-being by linking it to a strain and motivational process model as described by (Bakker & Demerouti 2007). Their longitudinal study with a one year time interval indicated that changes in job demands and job resources predict future burnout and work engagement. When job demands increase and job resources decrease, burnout scores tend to increase. Simultaneously when job resources increase work engagement increases as well. Changes in demands however did not affect future levels of work engagement.
This supplemented previous cross sectional studies using the JD-R model (Hakanen et al 2006). Schaufeli et al (2004) agreed with a number of studies that found positive associations between work engagement and job resources including social support from co-workers and superiors. Whilst studies were conducted in a business setting, the findings could be considered for the

healthcare setting and indeed may be transferrable. Halbesleben (2010) confirmed engaged employees demonstrated a positive attitude towards work and high energy levels. Some researchers are now exploring the construct at the team level (Bakker, Van Emmerik & Euwema 2006). Early indications from these ongoing studies suggest that at the team level, work engagement has a positive relationship between tasks and team performance.

In the United Kingdom, The Point of Care Foundation is an independent charity working to improve patients' experience of care and increase support for the staff who work with them. Their vision is to put patients at the heart of the healthcare system (www.pocf.org.uk). Believing in a truly patient-centred approach; focused on listening, understanding and responding to the needs of the whole individual, is considered to be essential to the delivery of the best possible quality of care. The Point of Care Foundation aims to become a leading source of information and practical solutions for health and care providers. They refer to staff engagement as a broad concept - a two way process which results in staff feeling engaged with each other and with the organisation they work for.

Stress and Burnout:

McCarthy et al (2010) examined the levels of stress experienced by nurses working in an Irish hospital. A cross sectional study design was employed with data collection via self administered questionnaire using the nursing stress scale and the demand control support scales. The results revealed significantly higher stress levels in the medical wards, accident and emergency departments, intensive care units and paediatric wards, compared with other departments within the hospital setting. These findings are similar to that of Bennett et al (2001), in applying the nursing stress scale (NSS), where the study examining the perceived causes of stress in the physical, psychological and social environment, and which revealed perceived stress levels to be higher in the medical ward, ED and paediatrics departments compared with that experienced in the theatre and recovery departments. This is consistent with studies conducted by Walsh et al (1998) in EDs. The key recommendation from this study is the need for enhanced surveillance of factors that contribute to stress for nurses and the need to realise that stress differs depending on work area within a hospital. The study goes on to conclude that where nurses are given the tools or resources to deal with job related demands, perceived stress can be reduced.

Two further studies by Gelsema et al (2006) and Jourdain & Chenevert (2010) similarly found a relationship between job stress and work environment. Gelsema et al (2006), using the Leiden Quality of Work Life Questionnaire confirmed changes in work conditions are related to changes in health and wellbeing, and advocated the necessity for hospital management to intervene early to improve work environments. Similarly Jourdain & Chenevert (2010) examined the role of burnout in the relationship between stress factors related to nurse's work and social environment and intention to leave the profession. 1,636 nurses were included in this Canadian study which found that demands are the most important determinant of emotional exhaustion with resources predicting de-personalisation. Emotional exhaustion and depersonalisation are associated with intention to leave an organisation. Thus this study confirmed the need for multiple approaches by organisations to retain nurses, namely decreasing demands, increasing resources and restructuring of roles in an effort to increase the meaning of their work.

The collective evidence on the impact of nurse leadership on the nursing work environment, coupled with the influence of the nurse work environment on the ability to engage effectively in nursing work, is of significant importance. It demonstrates the necessity for the consideration of these factors in reviewing the nursing workforce. The potential impact of the nurse leader on the work environment, workload stress, work engagement and job satisfaction are all key indicators within the work environment which impact on staff retention and the ability to maintain quality patient outcomes. All are critical indicators within the nursing workforce that are vital consideration points to effective planning of the nursing workforce.

1.5.4 Lean Process Improvement, Quality improvement Methodology and Workforce Planning

An interesting and recent addition to the literature on workforce planning and EDs is the concept of lean process improvement methodologies and other quality improvement approaches specific to EDs.

Lean Process Improvement:

Lean principles include elimination of unnecessary waste by frontline staff and management taking responsibility for the quality of their work, and participating in continuous quality improvement. Womack at al (2007) documented the success of Lean in the manufacturing trade which have highlighted a number of learning points that can be applied to the healthcare setting.

Many EDs are actively implementing a Lean Process improvement methodology. In a survey of US hospitals, 53% reported implementing Lean principles, of those hospitals 60% reported implementing lean in the ED (Henke 2009). Furthermore in a review of lean implementation, Holden (2011) found reference to 18 articles describing the implementation of Lean methods in 15 EDs in the United States. The review was unique firstly in its approach as it focused specifically on ED. Secondly it reviewed how lean affects health care employees along with patients. Thirdly it assessed previous studies for evidence of null effects of lean. Finally, it analysed the factors that contributed to Lean Success with comparison to previous studies according to an analytical framework (Holden 2011).

Holden reviewed Lean studies and Lean project teams as part of the critical review and confirmed the study sites were in general large teaching hospitals in the USA, Australia or Canada. In most cases lean methodology was the sole approach taken for process improvement, with an emphasis on process mapping. The type of work changes the implemented included:

- Use of all examination rooms (Eller 2009),
- Examination in progress signs (Eller 2009),
- Space reallocated for rapid assessing and holding patients (Eller 2009),
- Dedicated express areas where patients are treated sitting in chairs and
- Celebrations when goals achieved (Shooley 2008).

Other Lean improvements included processes conducted in patient treatment room – e.g. using mobile work stations (Kulkarni 2008); stocking conducted on an as needed basis as opposed to bulk (NG, D 2010) and improved signage to direct patients (Dickson et al 2008).

Schoutenen (2004) documented the undesirable effects of Lean and job demands: – increased workload, threaten anxiety and bring about anxiety. Interestingly Vest & Gramm (2009) reviewed that a trend of reporting bias towards publishing positive information resulting from Lean improvements, and concluded that formal inclusion of undesirable and null effects of Lean processes should be included in reports. Holden (2011) concluded that Lean offers opportunities in EDs, however more work is needed in relation to assessment of Lean methodology and the effects on patient safety and quality outcomes and recommended that the adaptation of Lean Methodology to healthcare settings needs further attention.

Closer to home a Summary Report conducted by the National Nursing Research Unit (NHS Institute for Innovation & Improvement & Kings College London 2010), reviewed 'The Productive Series'. The Productive Ward programme (which is part of the Productive Series) originated in 2005 as a working partnership between the National Health Service Institute (NHSi), nurse leaders, and industry partners. It was further developed through a design process that included working with four test sites in 2006 and with ten Learning Partners during 2007-8. A review of the productive series was undertaken in 2010 by the NHS Innovation and Improvement Centre – the evaluation report was titled 'Improving Healthcare quality and scale and pace- Lessons from The Productive Ward – Releasing time to care ™'. The evaluation found that the introduction of this lean methodology provided additional time to deliver nursing care by Registered Nurses, coining the phrase '*Releasing Time to Care*'. The greatest and most valuable resource, in any health care system or setting is the staff or workforce. The aim of the service should be to utilise valuable resources, effectively and efficiently and to provide improved patient care and outcomes.

This could mean streamlining ward environments to achieve optimal patient outcomes and experiences of care (Crump 2008). The time released by achieving efficiencies in operational routines (Wilson 2009), better organised ward environments (Eason 2008) and better use of patient data (Anthony 2008), can then be used for patient care, leading to an improvement in the safety (Fillingham 2007), quality and reliability of both patient care and the patient experience (Shepherd 2009; Torjessen 2009). Lean programmes offers these efficiencies, resulting in

better outcomes and subsequent improvements in patient and staff satisfaction and experience of the NHS, as well as a cultural change for the workforce (Wilson 2009).

From an Irish perspective in January 2012, the Clinical Strategy and Programmes Division of the HSE, launched the National Productive Ward: Releasing Time to Care™ (The Productive Ward) initiative in the Republic of Ireland. The Productive Ward is a 'cross-platform' Clinical Programme and is seen as a facilitator for the implementation of the 33 National Clinical Programmes, a key element of the health service reform programme. Seventeen hospitals (24 wards) countrywide participated in Phase I while a further 10 hospitals (13 wards) commenced Phase II in January 2013. Plans are currently in place to spread the initiative and this will be progressed through hospital groups and community healthcare organisations. A designated hub on HSELanD www.hseland.ie titled Improving Quality Exchange (IQX) is available as a repository and platform for sharing quality improvement best practice nationally such as those achieve through Productive Ward.

From an Emergency Department perspective a model of process improvement has been selected for dissemination – Clinical Microsystems. The objective is to provide all ED teams with a standardised approach to support and drive change and process improvement in the emergency setting and the Emergency Medicine Programme has identified a methodology called Clinical Microsystems, a model which evolved from work at the Institute for Health Policy and Clinical Practice, Dartmouth College, USA and in Jönköping, Sweden to drive improvement. It is an overarching quality improvement methodology that has been chosen for use by the EMP because it is a pragmatic and intuitive improvement approach that has been used to good effect in the ED setting in other jurisdictions. It places the patient-clinician interaction at the core of all quality improvement activity and can be easily adapted for use in different types of EDs.

A Clinical Microsystem is defined as the front-line unit that provides health care and is described as "*a small group of people (healthcare providers, patients and their families) who work together in a defined setting, on a regular basis to create care"*. (www.clinicalmicrosystem.org) Clinical Microsystems also include support staff, processes, technology and recurring patterns of information, behaviour and results. Highly performing Microsystems are characterised by patient focus, outcomes, performance and process improvement, intelligent use of information and technology, leadership, culture and staff development.

In summary, recent literature on workforce planning and EDs has highlighted the role of quality improvement processes as a key component of workforce planning. Whilst many frameworks and tools are in use, a specific framework for EDs has now been selected for use in emergency departments as part of the Emergency Medicine Programme. However, additional research is necessary in relation to outcomes from process improvement methodologies in general.

1.6 CONCLUSION

The objective of this literature review was firstly to examine and assess the available literature pertaining to workforce planning models and approaches broadly, and secondly to examine the identified literature in the context of Emergency Departments from a National, European and Global perspective.

The key conclusions from this literature review include:

- One size does not fit all
- The necessity to monitor ongoing changes in the profession of nursing coupled with changes in the healthcare system model of delivery which may impact on current and future planning of the nursing workforce
- The necessity to use a systematic method inclusive of the various factors affecting the workforce capability to delivery safe care, to determine the appropriate nursing workforce
- The need to understand the necessity to engage in ongoing monitoring and reassessment of the factors affecting the capability of the workforce to deliver safe care
- The need to integrate professional judgment in addition to systematic assessments to determine the nursing workforce
- The need to ensure methods take cognisance of and measurement of patient outcomes
- Given the extent of reform there is the necessity to factor financial considerations to ensure value for money in the management of the workforce

which should also be included in the decisions to support effective and efficient workforce planning

- environment and leadership play a significant part in effective workforce planning

The information gathered from this literature review informed the subsequent development of the ED Workforce Planning Toolkit (Part 2) and the design and outline of an education programme to support implementation of the overall framework (Part 3).

This literature review aimed to provide comprehensive information on workforce planning methodologies and their relevance to an emergency department setting. In reviewing the models and approaches, explicit attention was paid to the capacity of these models to deliver on service reconfiguration and design within existing resources in Emergency Departments.

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Part 2

ED Workforce Planning Toolkit

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Acronyms

ABA	An Bord Altranais (Nursing Board of Ireland) known now as NMBI; Nursing and Midwifery Board of Ireland
ABG	Arterial Blood Gas
ACLS	Advanced Cardiac Life Support
ADoN	Assistant Director of Nursing
ALS	Advanced Life Support
ANP	Advanced Nurse Practitioner
CF	Clinical Facilitator
CNM	Clinical Nurse Manager
CNS	Clinical Nurse Specialist
DNM	Divisional Nurse Manager
ECG	Electrocardiogram
ED	Emergency Department
EMSB	Emergency Management of Severe Burns
EMP	Emergency Medicine Programme
FETAC	Further Education and Training Awards Council
GP	General Practitioner
HCA	Health Care Assistant
HDip	Higher Diploma
HIQA	Health Information and Quality Authority
HR	Human Resources
HSE	Health Service Executive
ICT	Information and Communication Technology
ICTS	Irish Children's Triage System
MIMMS	Major Incident Medical Management & Support
MTS	Manchester Triage System
NIV	Non Invasive Ventilation
ONMSD	Office of the Nursing and Midwifery Services Director
PGDip	Post Graduate Diploma
QQI	Quality & Qualificaitons Ireland
RN	Registered Nurse
RCN	Registered Children's Nurse
NHS	National Health Service
UWES	Utreacht Work Engagement Scale
V&C	Venepuncture and Cannulation
RMHN	Registered Mental Health Nurse
KPI	Key Performance Indicator

Glossary of Terms

Headcount	This is the actual number of people/staff
Permanent Vacancy	This is a post that is approved within the staffing establishment, which is subsequently required for replacement as a consequence of the current post holders resignation, or permanent reassignment to another department.
Staffing Establishment	This is the total nurse staffing (WTE) requirement which is agreed and funded for a clinical area to deliver care.
Temporary Vacancy	A temporary vacancy is a post that is approved within the staffing establishment, which is temporarily vacant due to temporary leave reasons such as: maternity leave, parental leave, carer's leave, or temporary reassignment to another department.
Turnover	Turnover in this context is the number of leavers, permanently, from the emergency department. This can include those staff who resign from the department/hospital, or indeed those that transfer out of the ED to a new unit, on a permanent basis.
Whole Time Equivalent	Calculation of total staff delivering 39hrs per week; e.g. 3 staff working 19.5hours per week is 1.5WTE.

Legend

Case study 

Work-based Activity 

Worked Example 

Tip 

Introduction

The Office of the Nursing and Midwifery Services Director (ONMSD) in Ireland, on behalf of the National Emergency Medicine Programme (EMP) commissioned the development of this toolkit, as part of an overall ED workforce planning framework to assist and support nurse managers at all levels in determining the most effective and appropriate utilisation of their existing nursing (and support staff) resource in emergency settings.

It is accepted that there is no 'one size fits all' model of workforce planning for the ED setting, but rather a set of key measures to support informed decisions about the emergency nursing resource. This toolkit serves as a guide to support local nursing teams to assess and plan their nursing workforce to meet the needs of their individual services, in collaboration with local management. This toolkit aspires to provide a systematic and consistent approach to emergency nursing workforce planning, and to provide the tools to collect the evidence to strengthen and enhance the use of the nursing resource to its full potential.

A number of representative EDs from across the country were fundamental to the development of this toolkit, by sharing their knowledge, insight and expertise, along with sharing their activity data during arranged site visits and testing of the tools within this kit as the toolkit evolved. The site visits involved facilitated observation, focus groups and informal discussions with key staff on their sites. Their expertise and insights were invaluable to the development of not only the tools, but also in sharing case studies and direct experiences in practice to inform a comprehensive toolkit from the practitioner/ manager's perspective.

The critical review of the literature, pertaining to nursing workforce planning both broadly and specifically to Emergency Nursing which is presented in Part 1 of the framework was also used to support and inform the development of this toolkit.

This toolkit is designed to complement the work of the Emergency Medicine Programme (EMP) and to be used in conjunction with The Dartmouth Institute Microsystems Academy (TDIMA), Clinical Microsystems Quality Improvement Methodology which is being adopted by the EMP for programme implementation. Clinical Microsystems is an approach that focuses on coaching the multidisciplinary teams in the ED in improving the care environment for both patients and the teams that care for them. The methodology provides the ED teams with the skills and tools to assess, identify and implement the improvements which are most relevant to the particular context of their ED.

The toolkit presented here has a practical user friendly focus and includes work-based activities and worksheets, tools, tips, worked examples, and case studies underpinned by a workforce planning model, to help guide practice on assessing and planning the nursing workforce by the emergency nursing team. The toolkit is evidence based and reference to literature referred to throughout the toolkit is available in Part 1 Literature Review.

The individual sections outlined in this toolkit are designed for use as a collective, or individually to assess your emergency department workforce needs. In addition, the subsequent appendices provide further samples of the templates and tools to support workforce planning in your emergency department.

What is the purpose of the toolkit ....and who is it for?

Purpose of the toolkit

At a time when health resourcing budgets are contracting, it is vital that health care services individually examine the potential to maximise the efficiency of their services and resources. It is therefore intended that the overall purpose of this toolkit is to support and guide the development of nursing workforce planning knowledge and intelligence data on the nursing workforce, to inform decisions at local level and to drive improvements in service outcomes.

The toolkit aims to:

- Introduce the core concepts of nursing workforce planning;
- Act as a guide to nurse managers and nursing teams in EDs to plan and/or review their nursing workforce;
- Provide a systematic approach to the measurement of nursing workload to inform planning of the nursing workforce both currently and into the future;
- Provide tools, practical examples, work-based activities and case studies to support informed decisions on shaping the nursing workforce;
- Lead to informed decisions on the utilisation and deployment of the nursing workforce to meet service needs.

Who is the toolkit for?

This toolkit is designed primarily for Nurse Managers and their nursing teams in the ED to assess, plan and review their nursing workforce and to support decisions on the most effective and efficient use of nursing resources.

This toolkit is aimed at all levels of nursing skills from novice to expert – whether building upon, or refreshing workforce planning skills and knowledge, this toolkit acts as a guide to background information, tools, worked examples, case studies and a variety of activities and tips to support in planning the nursing workforce effectively.

Whilst the toolkit is specifically designed for use with Emergency Nursing Teams, it offers flexible tools, and examples which can be adapted and adopted for use across a variety of acute nursing care settings.

Essentially this toolkit is written with the novice workforce planner in mind, to provide simple yet effective tools to help support informed decisions on shaping a highly effective and efficient nursing workforce in line with continuous service reconfiguration and evolution.

Validation

Remember to validate the information that you are collecting. This can be done by checking the data for accuracy and errors on an ongoing basis.

Structure of the toolkit

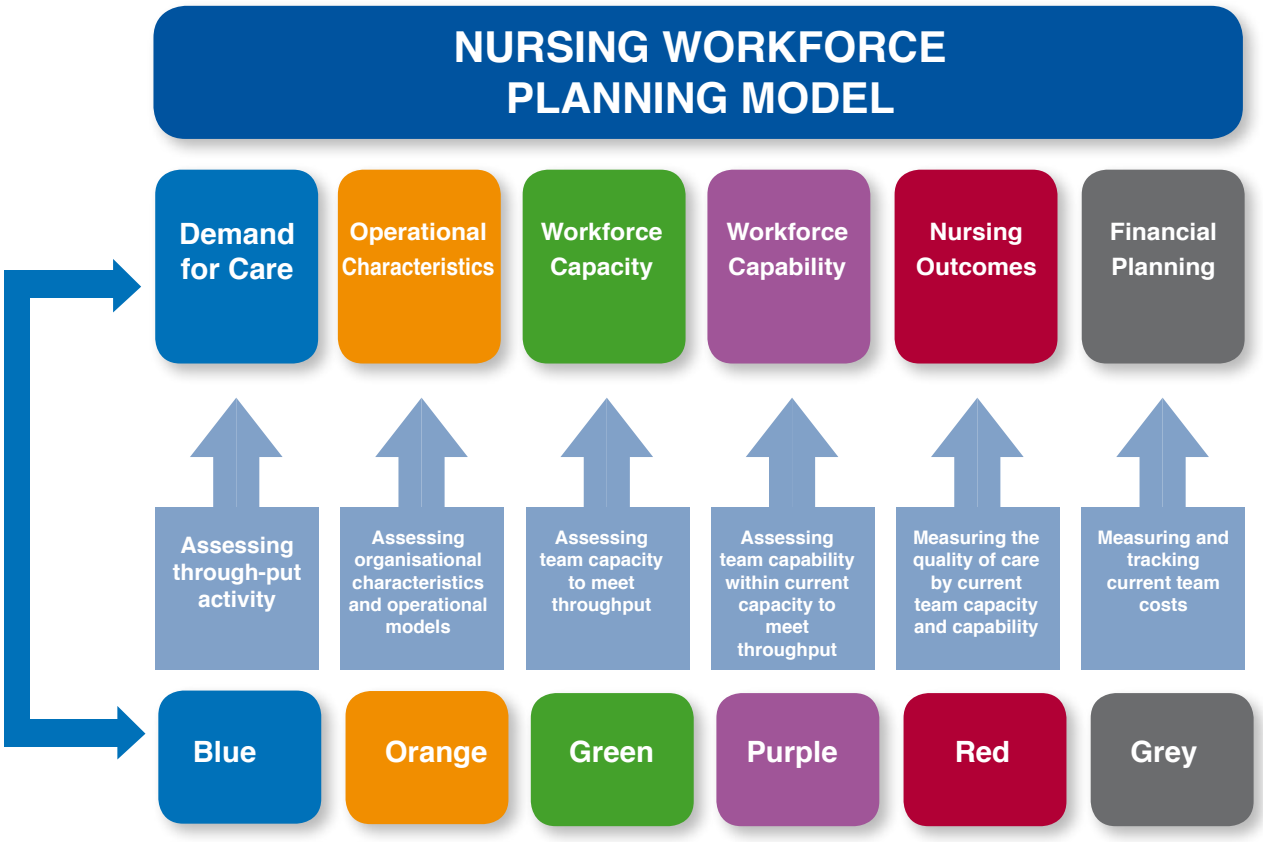
This toolkit is structured into six sections to provide you with information on how to:

- measure and interpret demand for nursing care
- assess and review organisational characteristics and operational models of care to understand their influence on nurse staffing
- examine the current capacity of the nursing team to meet service demand
- profile the capability of the nursing team to meet service demand and link it to appropriate nurse staffing utilisation
- develop and link nurse outcomes to nurse staffing model
- developing financial plans to support workforce planning

Navigating your way around the toolkit

- The toolkit's six sections are colour coded to help navigate to the chosen section. Figure 1 below will help you identify the relevant section to meet your current needs.
- The toolkit is designed to be flexible to meet your current needs. Therefore you may not wish to use all of the tools, but rather choose those tools that are most relevant to your current needs.
- Throughout the toolkit, each section contains key content, activities, worksheets, tips, worked examples and case studies to support its application in your area.

Figure 1: Navigating your way around the toolkit



Section 1
ED Nursing Workforce Planning Toolkit
Demand for Care

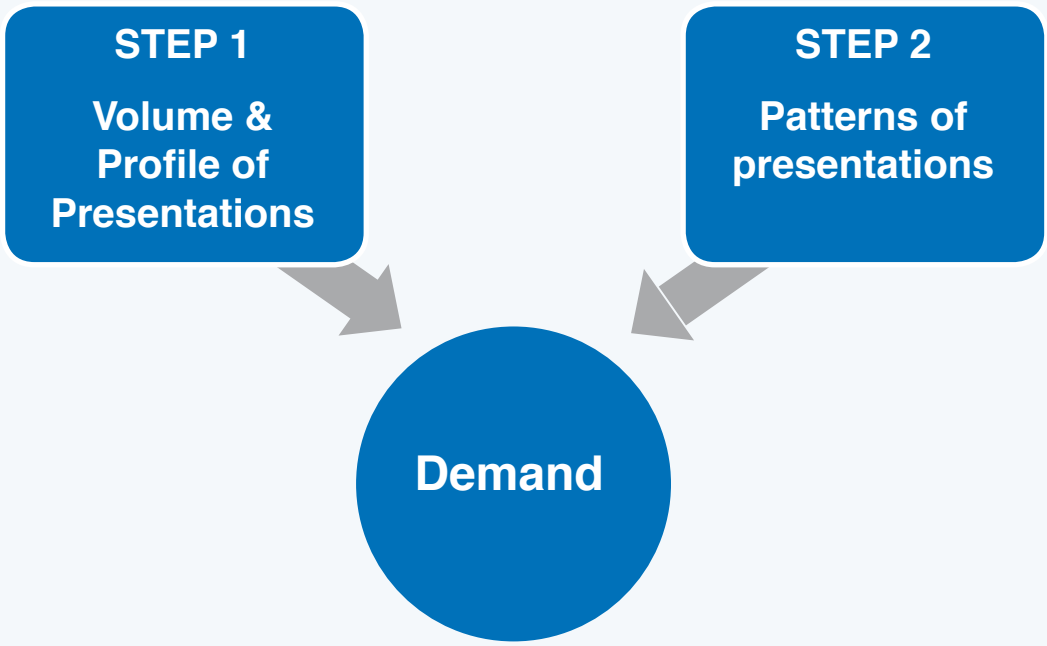
Demand for Care

Introduction

Understanding the demand for care is a very good starting point to determining the number of nurses and the composition of the nursing team required to provide care to meet this demand. Understanding the number and profile of presentations to the ED provides important information on the volume of work/ patients that your nursing team will need to care for, along with the category of patients for which you will need to match your nursing teams' skills and grade in order to provide safe care.

Similarly understanding the pattern of presentations provides key insights into the shape of the week/ season to identify peaks and troughs in patient presentations which will inform decisions on the deployment of nurse staffing. Figure 1 outlines key information for assessing demand in the ED.

Figure 1 Demand for care process



STEP 1: Assessing the volume and profile of patients

Assessing the volume and profile of patients into your ED is a very good first step in identifying basic service demand, to make informed decisions about your nursing workforce. This requires a systematic approach to the collection of data that informs you about the patients presenting to your department. Table 1 below helps you to understand how to assess and what assessment will tell you about your services in the context of the nursing workforce.

Table 1

How do I assess the volume and profile of patients?	What will this information tell me?
• Collect information regularly on number of patient presentations daily/monthly/annually • Collect data on triage category of presentations • Collect data to differentiate between new and return presentations • Collect data on the type of patient presentations: frail older patients, children, ambulance transfers, transfers from your department • Worksheet on page 61 will help you find out information about your service demand	**It will help you:-** • Understand the demand for care by your team based on the number of patient presentations • Plan for the potential number of patients requiring triage • Identify the number of new versus return patients, whereby new patients generate additional workload and time • Identify the potential for increased wordload due to the management of patients with potentially higher care needs, such as the frail older person. • Identify the potential loss of nursing care hours from the department as a consequence of escorts due to transfers

Case Study - ED Nurse Manager

Emma is a CNM 3 in a busy urban ED. She has recently taken up appointment to this position, having previously worked as a Shift Leader CNM2 in the department. She has noticed that her nursing staff are providing feedback of increasing numbers of complex cases presenting to the ED over the last three month period. Emma is unsure if this is due to an increasing volume of patients or whether the number of patient's attending is indeed more complex

Identifying the volume and profile of patients

Emma and her team, with the support of the Information and Communications Technology staff (ICT), sought to identify the following:

- The number of patient attendances for the current month and for the past 12 months;
- The number of patient attendances for the same period for the previous year;
- The triage category of patient attendances for both years;
- The percentage of all attendances for patients aged between 65-80yrs and aged 80+yrs who are at increased risk of frailty. (A frail older person typically presents as multiple co-morbidities with a increased likelihood of functional decline)

Emma and her team reviewed the data:

- For the current year to date: the total number of attendances was 66,516;
- For the same period for the previous year: the total number of attendances was 65,858;
- The triage category breakdown was relatively similar for both years as follows with minimal difference; Category 1 accounting for 0.5%, Category 2 accounting for 17%, Category 3 accounting for 65%, Category 4 accounting for 17%, Category 5 accounting for 0.5%;
- What Emma and her team noticed, was that the data on the categories of patients' classified as frail older persons were not routinely collected or reported and therefore limited the determination of demand based on this care group.

Identifying the needs of the service

- Emma and her team firstly identified the need to collect data on what was the number of frail older patient presentations. They also sought to identify the data on the admission rate for this patient category from the ED presentations, as this was considered useful to determining the complexity of presentations requiring subsequent admission.
- Based on a review of this data, there was a 10% increase noted in the number of presentations to the ED of the older patient group over the year.
- Consequently the nursing and medical team collaborated with the older persons services in their hospital and local community teams to provide additional support and review of this care group in the ED to fast track these patients.

Work-Based Activity

There are a number of potential challenges to measuring demand for care. These include: inconsistency in the data being collected and reported, capability issues and the resources to collect and interpret the data. However this data is critical to informing and strengthening the understanding of demand for care by nurses.

You can undertake this activity alone or in collaboration with a colleague from another hospital to share and compare your results. Undertake to collect the following data about your emergency department patient volume and profile using the template below, and consider what it tells you about your services. Even better if you have data for more than one year to compare! If not, this is a very good start to collecting this data about your services. Remember to validate your data – refer to tip on page 54.

Section 1 Demand for Care

Template 1

Assessing Demand: Patient Volume and Profile	
What is the average number of presentations each day to your ED?	
How many patients each year presenting to your ED are assigned a Manchester triage category of:	
Manchester Triage Category/ Irish Childrens Triage System 1	
Manchester Triage Category/ Irish Childrens Triage System 2	
Manchester Triage Category/ Irish Childrens Triage System 3	
Manchester Triage Category/ Irish Childrens Triage System 4	
Manchester Triage Category/ Irish Childrens Triage System 5	
What was the number of new Adult and Paediatric presentations to your ED for the year?	
What was the number of scheduled returns or patients who returned to review clinics at the ED, by Adult/Child or % Adult and % Paediatric presentations to your ED for the year?	
What was the number of ambulance attendances to your ED for the year?	
What the number of older patient presentations aged 65yrs to 80yrs, to your ED for the year?	
What was the number of older patient presentations, aged 80+yrs to your ED for the year?	
What was the number of Mental Health patient presentations to your ED for the year?	
What was the number of admissions to your Clinical Decision Unit from your ED for the year? (as applicable)	
What was the admission rate (%) for all presentations to your ED for the year?	
What was the number of patients requiring transfer and escort by your team to another ED/ Facility for specialist services for the year? On average what was the total time away from your ED per transfer/escort?	
What was the number of patients requiring transfer and escort by your team to another ED/ Facility for mental health services? On average what was the total time away from your ED per transfer/escort?	

STEP 2: Patterns of presentations

There are a number of reasons why nurse managers need to identify the patterns of presentations to his/her ED. Before proceeding there are case studies from practice available to you which you should read and then consider how this section may help you in undertaking this activity in your own department with your own team.

1 To identify the potential predictability of demand at particular time periods

Identifying the patterns of presentations to your department can help you to identify potential predictable 'pressure points' in your department. This is essentially about assessing for patterns of peaks and troughs in patient presentations. Peaks and trough patterns may be evident across the spectrum of the day; such as an increase in patient presentations between the hours of 11.00hrs and 22.00hrs. They can also be evident across the spectrum of the week; such as higher presentations on Mondays and Tuesdays. Equally there can be predictable patterns across the year, with seasonal peaks and troughs: such as higher presentations during November to January, and lower presentations during June to August. It is not unusual for ED staff to report higher admission rates during the winter period as opposed to the summer period. Nor is it unusual for ED staff to report particular peaks in presentations of children to the ED with respiratory conditions such as bronchiolitis/asthma events during the latter half of the winter season.

2 To inform changes to produce more effective and efficient nurse staffing deployment

Information on patterns of presentations is critical to ensuring your team has the right resources in the right place at the right time to meet the peaks and troughs of the service. It facilitates better deployment of staff, along with greater understanding by staff of the necessity for greater nurse staffing levels over the spectrum of the week on certain days, along with greater numbers of the nursing team working on the roster over the spectrum of the season/months. Identifying those days of the week when there is a pattern of increased ED presentations, allow nurse managers to allocate additional ED nursing resources to those days. Similarly over the course of the day, with higher presentations during 11.00hrs to 22.00hrs, nurse managers can equally allocate additional triage nursing resources during these times of the day to manage the increased presentation rate, to meet with triage target times.

3 To provide a platform for flexible staff deployment

Nurse Managers that collect, analyse, share and discuss this data with their nursing team, establish an open and transparent agenda amongst the team regarding flexible staff deployment. Engaging the nursing team in understanding and interpreting this data along with discussion and planning on how to change the service to meet the changing demand relevant to the patterns of presentations, provides for a healthy engaged approach to nurse staffing delivery and deployment. It also gives ownership to the ED nursing team to manage deployment. In such an approach, every team member has clarity on their role and the necessity for their role to meet with the evolving service needs, with increased engagement in change implementation as a consequence of effective collaboration.

Review the following case study and example to inform your decisions on how this element of the toolkit may assist you and your team.

Case Study - ED Nurse Manager

Breda is a CNM3 in a busy urban Children's ED. Breda is a very experienced Nurse Manager, and has noticed that last year, and again this year there is an increase in presentations to her ED during the months of January to March. Despite this recent trend, the previous years were steadily at a peak of presentations during the months of October to January, predominantly with children presenting with respiratory conditions.

Identifying the pattern

- As an experienced CNM, Breda and her team were collecting data on the volume and patterns of presentations to their ED for the last five years.
- The data they collected included the admission pattern over the spectrum of the week, and the admission pattern over the spectrum of the year, analysed monthly.
- This data provided them with readily identifiable information on the peak and trough of presentations over the week and the month.
- Consequently, on review of the data, Breda and her nursing team identified that the previously stable seasonal pattern had shifted forward by two months.

Identifying the response of the service

- Given the shift in the seasonal pattern of presentations to the ED, Breda firstly presented this data to her nursing team and discussed the shifting pattern. Staff acknowledged that they too had noticed a shift in the usual presentations for the time of year.
- As a team they discussed how this may be best addressed and managed within the existing staffing.
- Previously in managing the seasonal affect, staff and management had agreed a quota of those on annual leave for the high season of presentations. As the season had now shifted, staff negotiated and agreed to shift their annual leave quota's to suit the increased activity of presentations in line with the new seasonal peak, with ongoing review of the peak and trough.

Worked Example A

Bernadette is a CNM2 in a busy rural ED. Bernadette undertook to collect the following information about the patterns of presentations with her ED nursing team:

- The number of presentations to the ED during the day and during the night
- The number of presentations to the ED each day of the week
- The number of presentations to the ED each month of the year

In reviewing the data, Bernadette and her team concluded that there was a pattern of presentations over the spectrum of the week, with a higher number of presentations on a Monday and Tuesday and Friday. Bernadette's average daily nurse staffing level was 1 Shift Leader, 10 Nurses and 1-2 Health Care Assistants. Below is an example of the roster before the data was collected and the changed roster based on the information on the patterns of presentations.

Old Roster

Grade	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
CNM Shift Leader	1	1	1	1	1	1	1
RN	10	10	10	10	10	10	10
HCA	1	2	1	2	2	2	1

New Roster

Grade	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
CNM Shift Leader	1	1	1	1	1	1	1
RN	11	11	10	9	10	9	10
HCA	2	1	1	2	2	2	1

Tips to keep in mind when reviewing presentation patterns

- Involve your team in reviewing the data, and integrate with data collected through clinical microsystems to complement your decisions
- Involve your team in the discussions on what the data tells you about your service patterns
- Get your team to come up with the suggestions on how they can best meet the current patterns of presentations within current staffing
- Decide on a date for implementation of the change and set a review date with your team to ascertain its effectiveness

Section1 Demand for Care

Template 2

This template can be used to collect data from your emergency department on an annual basis of the patterns of presentations, over the spectrum of the day, week and month. It is also useful, that in identifying particular peaks over a day or night, to further examine the hours of presentation, to identify further patterns within the shift itself. For example, there may be a peak in presentations during the Thursday night shift, however on further examination of the data, it may be identifiable that the increase is usually between the hours of 20.00pm and 12.00 midnight, allowing for further examination of the workforce roster patterns.

Assessing Patterns of Demand		
What are the yearly numbers presenting to your ED during the daytime shift?		
What are the yearly numbers presenting to your ED during the night time shift?		
What are the yearly numbers presenting to your ED on the following days of the week and for which shift:		
Weekday	Day	Night
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		
What are the yearly numbers presenting to your ED on the following months of the year:		
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

Section 2
ED Nursing Workforce Planning Toolkit
Operational Characteristics

Operational Characteristics

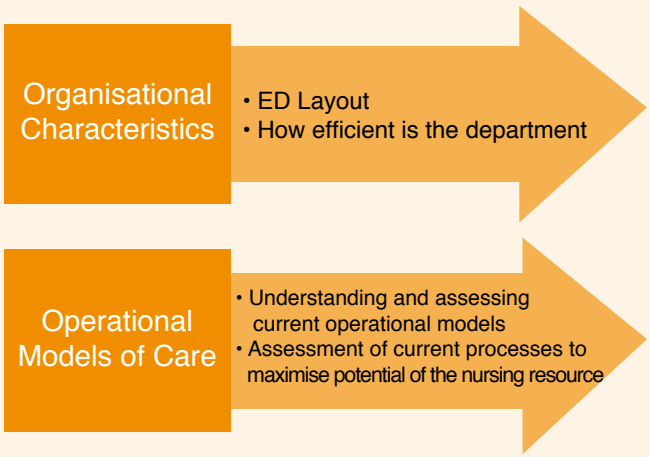
Organisational Characteristics and Operational Processes

Introduction

This section of the toolkit focuses on the organisational characteristic of your ED as well as the operational models of care, currently used by the nursing team as well as the wider multidisciplinary team. In this section of the toolkit you will be challenged to identify how your organisational environment affects the ability of your nursing team to be efficient, and what simple changes you can make to improve efficiency.

Similarly this section will prompt you to examine your current operational models of care in your ED and how these are used to support efficient and effective use of your nursing resource, as part of the multidisciplinary team to provide care.

Figure 1 Process for Organisational/Operational review



Step 1: Organisational Characteristics

The impact of the organisational environment in releasing time to care into the nursing resource is an important feature of nursing workforce planning (Simmons 2011). The physical design of the ED, has implications for care delivery, that include the number of discrete spaces, long distances between rooms, treatment bays and diagnostic areas, number of single rooms etc.

Before embarking on this section, consider some of the reasons why this is important to the nursing workforce context.

In Irish EDs, current infrastructure within many departments nationally is described as "unfit for purpose" according to the National Emergency Medicine Programme (HSE 2012b). It is recognised that ED teams need to be involved in the systematic approach to building or renovating ED facilities as developments are made across the system. In the interim, in advance of new ED infrastructural developments across many departments, there is evidence to support the implementation of measures to assist with optimisation of nursing work, through innovative measures within the nursing work environment.

The significance of environmental factors such as layout forms an equal portion of the safe nurse staffing guideline currently under development by NICE (2013).

A first logical step is to consider the current layout/ design features of your department. This will provide you with a baseline for current, future and external comparative analysis on your ED layout. Template 1 below provides you with a starting point to map your current infrastructure and layout from the consideration of a staffing perspective.

Collecting relevant information is critical to informing decisions on nurse staffing relative to the current organisational layout. Template 1 assists in decision making for deployment of staff within the ED.

Section 2 Operational Characteristics

Template 1

Current ED Infrastructure & Physical Layout		
How many triage rooms/spaces are available?		
What are the design factors of triage that need to be accommodated when staffing these areas?		
How many resuscitation bays are available and where are they located?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
How many minor and major cubicles are available?	**Minor**	**Major**
What are the design factors of these areas that need to be accommodated when staffing these areas?		
How many other patient spaces are available or are adjacent to your department?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
What is the total number of single rooms available?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
How many dedicated rooms for relatives/viewing deceased patients/mental health assessment and treatment are available?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
What is the total number of spaces available for paediatric patients?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
How many work stations are there, and what are the design features affecting patient care delivery and staffing?		
What is the location of the ED in relation to other high use services (e.g. diagnostics, pharmacy, supplies and storage areas)		
Describe the key factors and impact of these locations that need to be accommodated in staffing the ED.		
What technology is available to support organisation and delivery of care?		
Describe the key factors and impact of the current technology on staffing in the ED		
Is refurbishment of your ED currently in progress or planned? **If so is your ED team involved in planning?**		

What does this information tell us and what can we do with it?

- Ensuring visibility of patients and staff is high priority. Reviewing your department layout tells you where the potential for 'blind spots' due to poor layout, increase time to care for your nursing team. This will allow you and your team to consider interventions to manage these design flaws. As an example, Meade et al 2006, and Sawbridge & Hewison, 2011, discuss the potential for practices such as intentional rounding to account for poor ward layouts where patient and staff visibility is limited. It will also tell you about the possibility for higher staffing requirements as a consequence of additional single rooms/bays which is a well known feature in nursing workforce planning (NHS England 2013).
- The proximity of services such as diagnostics and pharmacy, impacts on staffing due to patient escort which can deplete resources and impact on skill mix in the department.
- Equally, this exercise challenges you and your team to consider what is missing from your department layout, such as additional rooms for patients with specific assessment and treatment needs, such as mental health.
- Assessing your department's layout also provides you with the opportunity to formally compare your department to other sites and how they are laid out, along with the opportunity to identify where design changes are required for future building/ extension/reconfiguration upgrade projects.

Work-Based Activity

Now gather members of your ED nursing team, and ideally multidisciplinary team and undertake the activity below. Preferably this should be undertaken after your team has completed the information and review of your ED using Template 1 (Current ED structure and physical layout).

This next activity is known as a SWOT analysis, and is very useful in identifying and documenting the **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats. This tool is very powerful at identifying the potential opportunities and strengths which can inform and lead to planned improvements in services. Figure 2 outlines this activity.

Figure 2 SWOT Activity Tool

Strengths	Weaknesses
What is good about our current layout and infrastructure?	What is not good about our current layout and infrastructure?
Opportunities	**Threats**
What is the potential to make changes now and into the future?	Where are the potential threats to improvements / change and how can these be managed

Tips for undertaking the SWOT

Consider the following:

- Use of technology (simple technology) to support location and visibility such as a Tannoy and CCTV.
- Other technologies, for the future: interactive whiteboard, which provide key information for all staff to see clearly and quickly the location of patients and also their current status
- The use of chute systems for delivery and acceptance of samples and other items, to avoid errands out of the department
- Use of swipe access technology for access to medicine or utility rooms, as this limits frequent looking for staff in a less visible department
- How easy it is to find and access items such as charts, forms, PCs etc. How cluttered is the workstation? Can there be satellite stations to facilitate greater patient visibility?
- Completing the 'Huddle' and patient handover at the bedside, in cases where the geographic layout make patients less visible. This can be highly effective to the team and the patients.
- Link in with other EDs nearby or across the network to ascertain those with similar issues and how they have overcome same.
- Consider efficient ward principles to streamline processes within the department and eliminate re-do work
- Use the Template and the SWOT analysis to build business cases for improvement based on the potential to release additional time to care through techological investment for example
- Review the National EMP (HSE 2012b) Report on examples of waste in the ED pg 284 to inform discussions

Lean Thinking:

When one considers the organisational environmental context, the principles of the Lean approach can offer potential additional areas for the release of time for care. The National Emergency Medicine Programme (HSE 2012b) refers to lean thinking as an underpinning focus of the EMP's recommendations for improving processes. In this context it is used to empower staff to work in a more effective way, by identifying their current work organisational characteristics, so as to identify where non value added work can be reduced or eliminated. Therefore identifying initiatives such as swipe access for medicine rooms/clean utility rooms, thereby reducing the amount of time spent looking for staff with keys, reduces the non value added time in this activity.

Equally essential to the planning of any refurbishment is the involvement of the ED team and service users.

Undertaking these exercises with your team, focuses them on the current design and process features that work well within the department, and more importantly where there is need for improvement. Where the team and service users are not involved in planning it is less likely that new refurbishment/re-design/new build will meet clinical and patient needs fully. This was evidenced in one ED site visit as part of this toolkit development, whereby a refurbishment, that did not involve the ED team directly, decreased the visibility of patients to the ED team in the department, thus increasing the nursing care time to observe these patients. Hence, the significant and powerful contribution the ED team can offer through a simple SWOT on informing decisions on design features, which can increase care time without additional nurse staffing requirements.

Step 2: Patient Pathways

Patient pathways in an ED setting are designed to focus care delivery in the ED, based on the manner in which their patient profiles are managed (NSW DoH 2010). The identification and determination of the appropriate patient pathway, upon which to identify and target resources does not occur in isolation from the wider context of the ED. Assessing the current patient pathways in your ED, requires the integration of the data already collected as outlined in Section 1 on Demand for Care. Integrating this data, informs your ED team on the current demands for care, by identifying patient profiles and patterns of presentations upon which to determine the most appropriate patient pathway, along with the necessary protocols, skills and processes to provide an efficient and effective patient pathway to meet the local service need. Equally, in ascertaining the most effective use of resources matched to appropriate protocols and policies within existing scope of practice, is the requirement to understand the most common presenting conditions. This will help identify those conditions for which extended and expanded nursing roles may be developed. Each ED team should decide which systems are most likely to yield the best results in their setting (EMP HSE 2012b), along with the most appropriate Healthcare Professional, e.g. ANP.

Figure 1 Process for review of operational model of care

This section provides an overview of ***some*** of the operational models of care followed by work based activities and case studies to support your ED in reviewing and determining your operational model of care relevant to current demand in the context of current or necessary resources.

Patient Streaming

This model of care involves the separation of patients into groups based on defined criteria such as complexity, which can be assessed using the MTS/ ICTS, (NSW DoH 2012). It is a model that has been shown to be effective in reducing ED waiting times although its implementation is unlikely to be cost-neutral (EMP HSE 2012b). Patients are separated into a designated area with appropriate allocation of resources and skills. Decisions on streaming are made at triage and when the patient has been seen by a clinician. Streaming decisions are then made to

decide the appropriate designation of the patient for example: to an area within the ED, or another area external to the ED. Patients can be streamed to areas such as Resus, majors, minors or based on their likelihood of admission; likelihood of discharge; or to other streams such as Clinical Decision Unit, Mental Health, Early Pregnancy Unit, to Rapid Assessment and Treatment (RAT), etc.

Streaming or segmentation is most effective during times of peak demand and analysis of patient arrival rates will identify the times when streaming is most likely to be required. Therefore the integration of the patient presentation patterns in Section 1 is important.

The EMP report (HSE 2012b) provides additional information on the potential for a complexity/acuity matrix to identify those patients suitable.

Minor Injuries

This patient stream is used to treat low complexity/ low urgency patients with the focus of care on early intervention and treatment (NSW DoH 2012). It is designed to reduce waiting times and length of stay in the ED for a defined patient group, which has benefits to the overall management of the ED.

Condition specific minor injuries protocols are used to support the patient pathway such as: Fractured Neck of Femur; Mental Health Pathway (HSE 2012b). This model of care can be delivered using nurse only, nurse and doctor or doctor only during busy periods when nursing resources are deployed elsewhere in the ED. Similar to patient streaming, the operational hours of this service should match peak times of presentations as assessed in Section 1 under patterns of presentations. Ideally the most experienced team members capable of independent decision making are required for this model to work effectively and efficiently. Similarly, access to diagnostics, along with protocol driven care is necessary to ensure an efficient service.

Rapid Assessment and Treatment (RAT)

The aim of Rapid Assessment and Treatment (RAT) is to provide early initiation of diagnostic, therapeutic and management protocols. RAT improves the timelines and quality of ED patient care by providing time critical assessments and front-loading clinical investigations.

Psychiatric Liaison

Psychiatric liaison is required to provide psychiatric assessment to patients identified as having mental health needs. The availability of this resource to the ED is beneficial to managing this patient group whereby existing skills are not available within current ED resources/skills.

Ideally this resource should be integrated into the ED with availability on weekends and after hours, to respond to requests in similarity to other ED prioritised requests (NSW DoH 2012).

Care Co-ordination/Aged Services Team

The aim of this team/approach is to reduce length of stay in the ED, admissions reduction and re-presentation avoidance. Access to a defined team, or multidisciplinary professionals to support care to older patients, provides substantial benefits to the ED and the hospital services as a whole, to reduce re-presentations to the ED and increase admission avoidance (NSW DoH 2012).

TIP FOR REVIEWING YOUR OPERATIONAL MODEL OF CARE

Refer to the National EMP Report 2012 National EMP Clinical Microsystems Model 2012, Report of the National Acute Medicine Programme Report 2010a, & New South Wales Health ED Workforce Research Report 2010

Work Based Activity

With your ED team, work through the Template 2 Operational Processes Assessment Tool, to assess your current model of care and processes to meet service demand. Following this exercise, consider what could be implemented and what actions need to be undertaken by your team to support the necessary changes. Remember to validate the information that you are collecting.

Section 2 Operational Characteristics

Template 2

Operational Processes Assessment Tool

Step One – Assessing Demand		**Review the data collected in section 1 with particular attention on:**			
	A	Profile of presentations to ascertain percentage of presentations for:			
		Children: Adults: Over 65yrs, Over 80yrs: and Mental Health % of admissions to indicate complexity % breakdown of MTS/ ICTS categories to indicate acuity			
	B	Patterns of presentations to ascertain peak and troughs of activity level throughout the day/week/season to inform the most effective time plan for model's of care and patient pathway.			
	C	**Ascertain common presenting conditions**			
		Examine ED presentations and identify the Top Ten presenting conditions. This will support the identification of appropriate protocols, diagnostics and scope for nurse managed care in the ED.			
		1	6		
		2	7		
		3	8		
		4	9		
		5	10		
Step Two- Examining access to services and processes		**Review the following with your team**			**Yes/No**
	A	Does your ED have clearly defined criteria for selection and ordering of investigations for conditions?			
	B	Does your ED have condition specific care pathways in operation? *If yes , list all those in operation*			
	C	List those condition specific pathways that require development in your ED based on Step One data above:			
	D	Consider the access to diagnostic services in your ED			
			8hrs/day	14hrs/day	24hrs/day	Other
		X-RAY				
		CT				
		MRI				
		Cardiac Catheterisation				
		Ultrasound				
		Laboratory Services				

Template 2 (Continued)

		Operational Processes Assessment Tool	
		Identify your current processes of care	
Step Three- Review of Current Operational processes			**Yes/No**
	A	Patient Streaming Hours of operation:	
	B	Fast Track Hours of operation:	
	C	Rapid Assessment and Treatment Hours of operation:	
	D	AMU/AMAU/MAU Hours of operation:	
	E	Psychiatric Liaison Hours of operation/availability of service:	
	F	Aged Care co-ordination team/liaison/defined process Hours of operation/availability of service:	
			Yes/No
Step Four- Opportunities to improve		Are there opportunities to improve the current model of care	
		If yes outline justification for new/reconfiguration of the model of care, and what is required for implementation (e.g. skills, reconfiguration, protocols, extended hours of diagnostics etc)	

Section 3
ED Nursing Workforce Planning Toolkit
Workforce Capacity

Workforce Capacity Introduction

This section provides supportive information and tools for nurse managers to undertake a review and identify the current capacity within their ED nursing team. In this context capacity is defined as the existing nursing and nursing support resource in the ED team. It will support development of staffing establishment data analysis (i.e. the number of nurses and HCA's working in the department); effective nurse rostering; examination of nursing and non-nursing role utilisation, along with skills to explore the development of existing roles within the team. Again, remember to validate the information that you are collecting for this section.

Capacity within the nursing team is the identification of the current resource, its capacity to meet service demand, deliver on operational characteristics such as innovative models of care, through identification and reconfiguration of current rosters and roles within the nursing establishment.

This section is ideally used when Section 1, Demand for Care and Section 2, Operational Characteristics have been undertaken. For example understanding your current establishment is more useful when you have data on any increases/decreases in service demand levels. Similarly knowledge on current role utilisation coupled with identifying where roles can be developed provides informed decisions on how operational models of care may be developed.

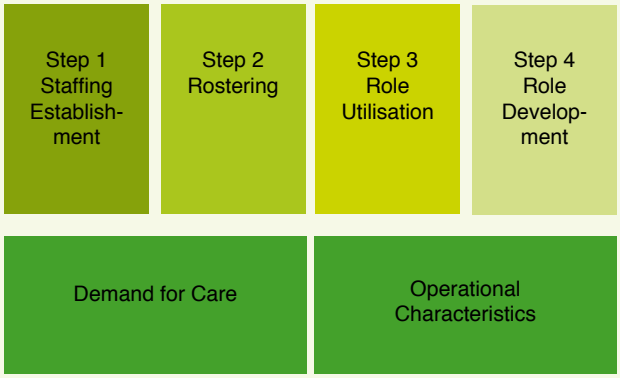


Figure 1

Step 1: Defining the staffing establishment

Staffing establishment is defined as the total staff (WTE) requirement which is agreed and funded for a clinical area to deliver care. In this case it is the number of nurses and HCAs working in the ED team. The funded establishment is the approved number of nurses and HCAs, whereas the actual establishment is the number actually in post. Key terms and data in developing a staffing establishment include: planned and unplanned leave/time out; permanent and temporary vacancies; supplementary staffing; and staff turnover. There are many reasons why a nurse manager may want to define and collect staffing establishment data.

1 To identify variance in the staffing establishment

Gathering data on the nurse staffing establishment, actual and funded provides important data on the potential difference between the actual and funded establishment. The first step is to seek confirmation on the current staffing establishment, as recent national and/or local changes may have affected historical establishments. This data is critical in order to develop action plans on resourcing the establishment. Similarly it is important to understand the establishment funding for supervisory roles that are supernumerary to the core staffing such as clinical leadership roles.

2 To determine staffing time out

Time out is described as any time away from the clinical area, which may be planned or un-planned. Planned leave/time out is leave including annual leave, maternity leave, study leave or parental leave as examples. The ONMSD has advocated that a time out of 20% be incorporated into HSE National Clinical Programmes' workforce planning calculations for nursing and midwifery grades. This is particularly important in determining a new staffing establishment, whereby time out should be built into the overall staffing establishment to account for planned absence. Unplanned leave/ time out is sick leave/absence and compassionate leave as examples. Similarly recording this rate provides key insights about the nursing team and potentially the work environment. The current HSE sickness absence target is 3.5% or less (HSE

(2010a). Monitoring increased sick absence rates may signal potential issues in the work environment, such as high workload and subsequent burnout as evidenced through sick absence increases.

3 To monitor vacancy, turnover and supplementary staffing usage

Permanent vacancies are those that arise as a consequence of staff resignations approved for replacement. Temporary vacancies are those that arise due to significant periods of leave due to maternity leave for example, whereby staff resource may be replaced on a temporary basis only. Equally recognising the actual number of permanent vacancies signals the necessity for possible permanent recruitments as opposed to continued use of supplementary nurse staffing, whereas temporary vacancies may be met with innovative strategies of a flexible nurse bank with the necessary skills to supply into the specialist area of ED.

Staff turnover is the number of leavers compared to the total number employed in the department (see definition in glossary). This is an important measure in the ED, as it gives key insights into recruitment and retention strategies. A high turnover rate may signify issues in the work environment perpetuating the loss of skilled ED team members, with subsequent deficits in skill mix, quality and safe care delivery. A moderate turnover rate is positive as it assures the introduction of new staff who can contribute innovative and new approaches to care, through a 'fresh eye' in the department. Equally new staff bring new experiences which can enhance care delivery along with a renewed focus on how care can be delivered differently. Turnover rates are reported as percentages.

Turnover is calculated in WTE as follows:

$$\frac{\text{Total number of WTE Leavers in a specified period}}{\text{Average number of employees during the same period}} \times \frac{100}{1}$$

Supplementary staffing is that not within the establishment, but is used to resource, such as agency and nurse bank. Monitoring supplementary nurse staffing is vital to identify greater efficiency savings through replacement with a more stable workforce via permanent positions, yielding greater overall savings.

4 To assist in the determination of appropriate nurse staffing

All of this data provides key details on workforce metrics including, staff turnover, sick absence, vacancies short and long term along with supplementary staffing. This data is important in the capacity of the establishment to meet quality outcomes and maintain patient safety linked to patient demand and trends on increases in patient presentations for example. In an approach whereby data on the staffing establishment is continually maintained, this is then compared to the data on demand for care data. Thus when analysed collectively, increases in demand for care, can be comparatively examined and mapped to the staffing establishment. This can demonstrate that increased pressures in workload may be perpetuated by an increase in supplementary nurse staffing, rather than substantive recruitment to permanent vacancies. This information is critical as it can provide substantial evidence to support greater economic value of substantive recruitments in favour of supplementary nurse staffing. Similarly, this information can be a warning sign of potential issues in the nurse practice environment in the ED, through the analysis of staff turnover and unplanned absence when compared to hospital wide turnover and absence rates.

Work Based Activity

Use template 1 below to ascertain your staffing establishment. Link in with your HR department to identify agency, nurse bank/ overtime WTE usage for the period. Ideally update this template on a monthly basis.

Section 3 Work Force Capacity

Template 1

Staffing Establishment

WTE	CNM	Supervisory CNM	RN	RCN	Clinical Facilitator	Nurse Specialist (e.g ANP/RAT/GP Liaison)	HCA	Total	Subtotal
Funded Establishment									
Actual Establishment									
Permanent Vacancies									
Temporary Vacancies									
Sick Leave									
Agency									
Nurse Bank									
Overtime									

Example A

WTE	CNM	Supervisory CNM	RN	RCN	Clinical Facilitator	Nurse Specialist (e.g ANP/RAT/GP liaison)	HCA	Total	Subtotal
Funded Establishment	5	4	50	4	1	1	4	**69**	
Actual Establishment	4	4	46	3	1	1	3	**62**	-7
Permanent Vacancies	1	0	2	1	0	0	0	**4**	
Temporary Vacancies	0	0	2	0	0	0	1	**3**	
									7
Sick Leave	0	0	0.5	0	0	0	0.5	**1**	1
Agency	0	0	3	0	0	0	0.5	**3.5**	
Nurse Bank	0	0	0	0	0	0		**0**	
Overtime	0.5	0	0	0.5	0	0		**1**	
									4.5

In the above example, the gap between the funded and actual establishment is 7WTE. This is made up of 4 permanent vacancies, and 3 temporary vacancies. Adding to the vacancy level is sick leave at 1WTE, therefore the felt vacancy level is 8WTE. Supplemental staffing is filling to the level of 4.5WTE, therefore there is a deficit of 3.5WTE. This is being met with 3.5WTE agency which is costly by comparison to replacement of the permanent WTE, which will be evident in the financial budget for the department.

Step 2: Rostering

The power of good rostering practices to support effective and efficient use of the nursing resource cannot be overstated. Within the funded staffing establishment there is a finite amount of nursing resources, which through effective rostering can be maximised for efficiency and effectiveness. There are a number of rostering options available to nurse managers. These include rotational rostering, self rostering and computerised rosters.

In Section 1 Demand for Care, effective rostering practices to meet patterns of presentations were demonstrated. Therefore in this section the principles of good rostering practices are presented.

Principles of effective rostering practice

- Overall accountability for the roster remains with the Nurse Manager, although self rostering builds confidence, co-operation and teamwork.
- A roster is primarily designed to meet the service need and where possible balanced to meet staff preferences and 'work life' balance. Whilst this is not always possible, negotiation skills are required to achieve a fair outcome.
- Roster shifts are matched to the operational model of care, e.g. start and finish times of the shift may vary across the spectrum of the week based upon presentation peaks for specific services, such as RAT.
- Rostering is fair and equitable.
- Consideration of the impact of night duty and unsocial hours are factored in a fair and equitable manner into the construction of the roster.
- The roster balances skill mix with grade mix.
- The roster where feasible provides capacity for nurturing and development of junior staff by experienced nurses.
- The roster is published within a reasonable timeframe in order to provide ample time for staff to be informed of shift pattern.
- The roster is supported by clear protocols for effective decision making particularly in relation to skill mix and patterns of presentations. This is particularly important in the self rostering situation.
- There is partnership, involvement and ownership of the construction of an effective roster by all staff.
- Effective planning of annual leave which impacts on the overall roster should take into account data on patterns of presentations that may indicate seasonal patterns. Equally, annual leave should be planned across the spectrum of the year to ensure there is adequate opportunity for all staff to avail of annual leave and to reduce the need for accrual of leave by multiple staff members which can result in a peak of leave at one point in the yearly cycle, thus depleting the roster.
- Promoting effective communication on the roster, roster changes and staff to staff negotiation can be an effective way for the further development of team cohesiveness.
- Where there are necessary changes to the roster based on patterns of presentations, these should be openly discussed with all staff to facilitate communication and team working.
- Regular review of the roster should be undertaken to ensure that it is aligned with activity levels and development of new operational models of care in the department.
- Consider the necessity for roster review and planning for specific events that may impact on your ED at a particular point.

Step 3: Effective Role Utilisation

Maximising the potential of all members of the Nursing and Health Care Assistant team provides for far greater utilisation of the entire team to deliver care appropriately to patients. Ensuring that each of the various roles in the team is used effectively can potentially provide for greater release of time for patient care by individual roles with the team. Effective utilisation of the roles similarly fits with the principle of ensuring the right person is in the right place at the right time, thus reducing/eliminating the inappropriate use of roles within the team.

Examining the use of the individual roles within the department provides the opportunity to determine whether these roles are being used appropriately coupled with the potential to identify the development of these roles to undertake new tasks, functions and possibly extended or expanded roles. For these reasons, a Nurse Manager and their team may wish to formally measure the delivery of nursing care across the nursing team by the individual roles within the team to ascertain how effective these roles are currently being used.

In order to accurately assess the effectiveness of role utilisation within the ED nursing team, a common method used is direct observation/activity analysis. This section discusses how to undertake direct observation/activity analysis along with the reasons for doing so.

1 What is Observation/Activity Analysis?

The use of direct observation/activity analysis is a method of recording nursing activities (Hurst 2003). Care is observed using a tool designed to establish the proportion and distribution of nursing time to activity (Williams et al 2009). Activities are separated generally into four categories. Direct care, indirect care, associated care/unit-related care, and personal time (Hurst 2003; Williams et al 2009).

A significant body of this work has been tested and used by Hurst (2003) to determine ward staffing establishments. All staff grades are observed for defined intervals of time across the spectrum of the week to include all shift patterns (i.e. days and nights). Care is recorded using an activity/ observation tool, comprised of individual activities indicative of the four broad categories. Recording of activity is undertaken at 5-10 minute intervals.

2 Benefits of Observation/Activity Analysis

- Identifies the direct/indirect/associated/personal time across all staff grades.
- Exposes the utilisation of nursing roles in non nursing/non value added work to the nursing role.
- Identifies the potential for development and utilisation of other roles in the nursing team.
- Reveals potential time saving care/ time release by roles currently underutilised or inappropriately used.
- Highly effective tool in situations where there are limited additional resources and therefore current roles need to be utilised more effectively.
- Where nurse managers and nurses within the same team undertake this activity in their own department, it not only fosters engagement for change but also readily identifies the scope for role reconfiguration.

3 Limitations of Observation/Activity Analysis

- This activity is resource intensive.
- It needs to be managed ethically and formally with active open and transparent communication to foster engagement.

4 Undertaking observation in the ED

As part of the development of this toolkit a specific observation tool was developed by the Steering Group. The tool was based on a modified version of observation tools developed by Hurst (2003), Williams et al (2009), and NSW DoH 2012. The tool is divided into four sections to capture care delivery by all members of the ED nursing and HCA team and includes:

- **Face to face care:** care delivered at the bedside to patients;
- **Near to bed care:** essential patient care not delivered at the bedside: e.g. documentation, communication with professionals about patient care;
- **Connected care:** care connected to patient care, but that which is of the wider department care: e.g. cleaning; stocking; meetings.
- **Staff activities:** this includes individual staff activity such as personal time and breaks.

Appendix 3 provides a detailed breakdown of each of the sections along with their individual activities specific to the ED nursing team, which are to be used when undertaking the observation of the ED nursing team activity.

Observation should be undertaken across the full spectrum of the week, to include day shifts and night shifts. Generally 6 hours of observation per shift is sufficient. Usually six shifts of 6 hours is sufficient to ascertain a key indication of role utilisation. As part of the development of this tool, 48 hours of observation across five sites was undertaken (total of 240 hours of observation) to test and develop the tool.

During observation all grades of the nursing team are observed at 10 minute intervals. For example if there are 2 CNM's, 1ANP, 7 RN's, 1 Agency RN and 2 HCA's on duty, all staff must be observed.

It is important to separate Agency grades from the department staffing grades, to ascertain the possible variance in work activity by this supplementary workforce. As a novice observer, you may wish to enlist the support of a second observer, when staff numbers to be observed are high.

During observation, it will not be possible to observe all activity, as this will intrude patient privacy. Therefore you will need to question staff on their activities during these situations.

The data can be captured manually on paper using Template 2 and then transferred to an Excel spread sheet for data analysis. If there is access to a hand held tablet device data can be entered directly to the spread sheet.

In Template 2 overleaf, this sample tool, facilitates the recording of 4 staff concurrently. For ease of recording, it is recommended to include similar staff grades on the same sheet, i.e. all CNM's on one sheet, all RN's on one sheet so on and so forth. Each sheet records one hour of activity for each staff member, which is calculated at the end of each sheet, and added to a total for the 6 hours as demonstrated in the example overleaf.

Once completed, all activity for all staff grades is calculated, to provide overall breakdown of staff activity across all the observed shifts for the four segments of care activity as described opposite.

TIP FOR UNDERTAKING OBSERVATION OF ACTIVITY

Involve and engage with all staff in the ED in undertaking the observation

Consider cross site sharing of data and undertaking observation of activity to learn from other ED colleagues.

Section 3 - Template 2 Observation Analysis

Staff Grade:	DATE:	TIME:	

Activity	Initials:						Initials:						Initials:						Total
	0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50	
Face to Face Care																			
Clinical Assessment																			
Nursing Procedure																			
Advanced Nurse Skill																			
Medicines Management																			
Clinical Observations																			
Communication																			
Admit/Transfer																			
Discharge/Escort																			
Moving & Handling																			
Nutritional Care																			
Personal Hygiene																			
Elimination Care																			
Infection Control																			
Point of Care Testing																			
Assisting Dr																			
Assisting																			
Near to Bed Care																			
Recording Care																			
Handover																			
Inter-Profes Comm																			
Soc Support Rel																			
Clinical Instruction																			
Connected Care																			
Clerical																			
Administrative																			
Allied Communication																			
Catering																			
Cleaning																			
Errands																			
Supplies																			
Admin Meet																			
Audit/Research																			
Supervising/Educating																			
Staff Activities																			
Breaks																			
Personal																			
Unoccupied																			
Other																			
TOTAL TIME (Cumulative of TOTAL column multiplied by 10 (10minutes per recorded activity)																			

Example B

Staff Grade: RN				DATE: 12/08/2013						TIME: 07.30-08.30 (Hour 1)											
Activity	Initials: AB						Initials: CD						Initials: CC						Total
	0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50	
Face to Face Care																			5
Clinical Assessment																	1	1	2
Nursing Procedure																			0
Advanced Nurse Skill																			0
Medicines Management						2													1
Clinical Observations											2	2							2
Communication																			0
Admit/Transfer																			0
Discharge/Escort																			0
Moving & Handling																			0
Nutritional Care																			0
Personal Hygiene																			0
Elimination Care																			0
Infection Control																			0
Point of Care Testing																			0
Assisting Dr																			0
Assisting																			0
Near to Bed Care																			13
Recording Care																			0
Handover	2	2	2	2			2	2	2	2			2	2	2	2			12
Inter-Profes Comm					6														1
Soc Support Rel																			0
Clinical Instruction																			0
Connected Care																			0
Clerical																			0
Administrative																			0
Allied Communication																			0
Catering																			0
Cleaning																			0
Errands																			0
Supplies																			0
Admin Meet																			0
Audit/Research																			0
Supervising/Educating																			0
Staff Activities																			0
Breaks																			0
Personal																			0
Unoccupied																			0
Other																			0
TOTAL TIME (Cumulative of TOTAL column multiplied by 10 (10minutes per recorded activity)																			**180**

How do I analyse the data I have collected?

Using the data in the worked Example B on the previous page;

- During observation the codes for each activity are entered across the sheet for each RN as they are observed. The codes are found in Appendix 3 as previously referred to.
- A cumulative total is then generated in the 'Total' column, whereby the frequency of each activity is added for each activity: e.g. Clinical Assessment on Row 1 was observed twice, therefore 2 is placed into the Total column.
- Next, the cumulative total for all activities under each section is then calculated: e.g. Near to Bed Care total is 13, as it is comprised of 12 observations of Handover and 1 observation of Inter Professional Communication.
- On the last row, the 'Total Time' is recorded. This is the cumulative total of all subtotals in the 'Total' Column. In the example this adds to 18, which is correct, as this is the total care minutes recorded which is 10 minutes multiplied by 18 observations which gives a total of 180 minutes. The reliability check is as follows:

  Number of staff observed X Total minutes observed per staff = Total Care Time

  For the worked example this is as follows:
  3 X 60 = 180 minutes

- This formula also allows you to work out the percentage time spent on each activity as a percentage of the total time observed, along with determining the breakdown of time spent on: Face to Face Care, Near to Bed Care, Connected Care, and Staff Activity.
  It is calculated as follows.

1 Calculating the total percentage time spent on individual activities

$$\frac{\text{Total for the individual activity X 10}}{\text{Total Time}} \times \frac{100}{1}$$

From Example B, working out the % of Handover time is as follows:

$$\frac{12 \times 10}{180} \times \frac{100}{1} = 67\%$$

2 Calculating the total percentage time spent across the Four Categories of care activities

$$\frac{\text{Total for the individual category X 10}}{\text{Total Time}} \times \frac{100}{1}$$

From Example B, working out the % across the four categories is as follows:

Face to Face Care	$\frac{5X10}{180} \times \frac{100}{1}$	**28%**
Near to Bed Care	$\frac{13X10}{180} \times \frac{100}{1}$	**72%**
Connected Care	$\frac{0X10}{180} \times \frac{100}{1}$	**0%**
Staff Activity	$\frac{0X10}{180} \times \frac{100}{1}$	**0%**

3 Calculating the department activity for all grades and all categories

Using Example B repeat step 1 and 2 for all worksheets, for all hours of observation per individual grade. This will provide overall cumulative totals of hours and activities.

Example C overleaf provides you with a worked example of what this will look like when it is all converted into percentages, and rounded to 0 decimal points.

Example C

Activities	CNM	RN	ANP	HCA
Face to Face Care Activities	**33%**	**50%**	**54%**	**53%**
Clinical Assessment	11%	12%	0%	0%
Nursing Procedure	6%	8%	10%	4%
Advanced Nursing Skill	1%	0%	40%	0%
Medicines Management	4%	8%	0%	0%
Clinical Observations	3%	9%	0%	0%
Communication	3%	3%	0%	10%
Admission & Transfer	2%	1%	0%	4%
Discharge & Escort	0%	1%	0%	22%
Moving & Handling	0%	1%	0%	7%
Nutritional Care	0%	0%	0%	1%
Personal Hygiene	1%	1%	0%	0%
Elimination Care	0%	0%	2%	1%
Infection Prevention & Control	0%	0%	0%	0%
POCT	1%	3%	2%	0%
Assisting Doctors	0%	1%	0%	0%
Assisting	0%	0%	0%	3%
Near to Bed Care	**50%**	**31%**	**27%**	**4%**
Recording Care	10%	13%	6%	0%
Handover	14%	9%	0%	2%
Inter Professional Communication	25%	9%	21%	2%
Relatives Social Support	0%	0%	0%	0%
Clinical Instruction	1%	0%	0%	0%
Connected Care Activities	**7%**	**7%**	**6%**	**26%**
Clerical	1%	1%	0%	0%
Administrative	2%	1%	0%	0%
Allied Communication	1%	0%	2%	1%
Catering	0%	0%	0%	0%
Cleaning	1%	1%	0%	11%
Errands	1%	1%	4%	3%
Supplies and Stocking	1%	3%	0%	10%
Meetings Administration	0%	0%	0%	0%
Clinical Audit & Research	0%	0%	0%	0%
Supervising & Educating	0%	0%	0%	0%
Staff Activities	**10%**	**12%**	**13%**	**17%**
Breaks	10%	12%	13%	13%
Personal Time	0%	0%	0%	2%
Unoccupied	0%	0%	0%	2%
Other	0%	0%	0%	0%

Translating the data into meaningful information

Interpreting the data requires an understanding of the breakdown of the care activity sections, to determine if the roles observed are being used effectively and efficiently.

In the first instance this can be compared to national and international data-sets to determine the appropriateness of care activities of various roles.

The majority of the evidence however is based on general in-patient wards. Despite this, the data is useful to the ED to provide the context and focus of these findings to the ED setting. International evidence on nursing and non-nursing roles suggests nurses provide care broadly across the 4 categories of care activities as follows for Registered Nurses:

Direct Care (Face to Face Care): 40-45% (Williams et al 2009; INO, 2009; Duffield and Wise, 2003; Urden & Roode, 1997)

Indirect Care (Near to Bed Care): 25-30% (Williams et al 2009; INO 2009; Duffield and Wise 2003; Urden & Roode 1997)

Unit Related Care (Connected Care): 10-20% (Williams et al 2009; INO 2009).

Personal Time (Staff Activities): 15-19% (Williams et a 2009; INO 2009).

Direct care activities for Clinical Nurse Specialist and Advanced Nurse Practitioner roles has been reported as upwards of 40% with a further 30% on indirect care activities (Norton et al 2012; RCN 2010).

Based on this evidence and coupled with the data collected across the 5 sites involved in testing this tool during toolkit development, Table 1 outlines guidance on the distribution of activities across the various roles. This is based on individual variances in the Irish health care system coupled with observations of best practice ED's in the observations. This however should only be used as a guide, with individual variance expected over time as the scope of practice of individual roles evolves. The higher level of connected care activities for CNM's is to take account of the administrative duties included in their supervisory role.

Table 1: Guidance on distribution of activities/role in ED

	CNM	RN	ANP	HCA
Face to face Care Activities	25-30%	45-50%	>50-60%	40%
Near to Bed Care Activities	30-40%	30%	20%	5-10%
Connected Care Activities	15-20%	<10%	<10%	30-35%
Staff Activities	10-15%	10-15%	10-15%	10-15%

This data should be compared with the data collected from your own ED to ascertain the effective utilisation of roles within your individual ED team and used as a guide.

Deciding on what improvements can be made

This data can be used to inform the necessary and appropriate redistribution of tasks across current roles. There is an opportunity to use this data to support decisions around better utilisation of roles and skills. Similarly the data can highlight current practices that add little value to the system by roles that could be used elsewhere in the system to provide added value.

Identifying where nursing and non-nursing roles are used less effectively can support the development of changes to work practices. Equally it can be used as evidence to justify the development of protocols to support enhanced role utilisation.

Overleaf there are case studies presented from the data gathered across Irish ED's.

Case Study 1 – Using observed activity findings to influence change in inter-departmental practices

Liz is a CNM3 in a busy rural ED. She and her nursing and HCA team recently undertook an observation analysis of their ED, in collaboration with another ED nursing team of a similar size. The data from Liz's department is presented below on the left. One of the observations for Liz and her team was that a high proportion of nursing and especially HCA time was being spent away from the ward to escort patients to and from the X-Ray Department.

Liz's Data	CNM	RN	HCA
Face to Face Care	**28%**	**45%**	**46%**
Clinical Assessment	5%	9%	0%
Nursing Procedure	1%	4%	0%
Advanced Nursing Skill	0%	0%	0%
Medicines Management	2%	5%	0%
Clinical Observations	3%	11%	0%
Communication	5%	3%	0%
Admission & Transfer	3%	1%	0%
Discharge & Escort	**4%**	**5%**	**28%**
Moving & Handling	2%	2%	5%
Nutritional Care	0%	0%	3%
Personal Hygiene	0%	0%	0%
Elimination Care	2%	2%	7%
Infection Prevention & Control	0%	0%	1%
POCT	0%	1%	0%
Assisting Doctors	1%	2%	2%
Assisting	0%	0%	0%

Data from another site	CNM	RN	HCA
Face to Face Care	**17%**	**46%**	**36%**
Clinical Assessment	2%	15%	0%
Nursing Procedure	1%	3%	0%
Advanced Nursing Skill	0%	0%	0%
Medicines Management	1%	6%	0%
Clinical Observations	1%	9%	1%
Communication	8%	7%	5%
Admission & Transfer	2%	2%	1%
Discharge & Escort	**1%**	**2%**	**6%**
Moving & Handling	0%	1%	5%
Nutritional Care	0%	0%	1%
Personal Hygiene	0%	0%	3%
Elimination Care	0%	1%	8%
Infection Prevention & Control	0%	0%	1%
POCT	0%	0%	1%
Assisting Doctors	1%	0%	2%
Assisting	0%	0%	2%

Case Study 1 – continued

Identifying the area for improvement from the results

Highlighted in Liz's data above is the % of time being spent on discharge and escort duties by her ED team. Of note, is the particularly high % of HCA time being spent on this activity. On review of the coding, it was noted that the majority of this time was being spent escorting patients to and from X-Ray and CT.

Liz asked her colleague in the similar sized ED for similar observation/activity data for comparative purposes, which revealed far lower levels of escort duties by this nursing and HCA team.

- Liz shared this comparative data with her ED nursing and HCA team
- Discussion among the team revealed that, historically, all trolley patients going for X-Ray or CT were automatically escorted by a nurse or HCA. This resulted in a significant loss of ED nurse and HCA time.
- It was felt that better informed decisions about the escorting of patients to X-Ray and CT would release time for care by ED nurses and HCAs
- The ED nursing team had for some time been requesting additional resources to manage increased workload. The data provided compelling evidence to suggest that there was potential to reduce the amount of time spent on escorts which would be a resource neutral way of releasing additional care time to the system
- This data was shared with senior nursing management who, along with Liz, met with the X-Ray and CT managers to agree defined criteria and protocols for patients requiring escorts to their department
- It is planned to repeat the observation activity 6 months after introduction of the defined criteria and protocol to ascertain their effectiveness in reducing escort time and increasing time to care

Case Study 2 – Using observed activity findings to influence a change in ED Nursing Team Practice

Caroline is a CNM2 in a busy urban ED. She and her nursing and HCA team recently undertook an observation analysis of their ED. Their data is presented below.

Activities	CNM	RN	HCA
Face to Face Care	**30%**	**55%**	**10%**
Clinical Assessment	3%	14%	0%
Nursing Procedure	2%	4%	0%
Advanced Nursing Skill	0%	1%	0%
Medicines Management	3%	7%	0%
Clinical Observations	6%	9%	0%
Communication	2%	4%	0%
Admission & Transfer	4%	2%	0%
Discharge & Escort	**5%**	**7%**	**4%**
Moving & Handling	3%	1%	6%
Nutritional Care	0%	0%	0%
Personal Hygiene	0%	0%	0%
Elimination Care	2%	2%	0%
Infection Prevention & Control	0%	1%	0%
POCT	0%	2%	0%
Assisting Doctors	0%	1%	0%
Assisting	0%	0%	0%

Identifying the area for improvement from the results

Highlighted in the data above are two features of activity related to Face to Face care.

1. The data reveals the level of involvement by HCA's in direct care activities at 10%.The HCA activity was significantly higher for roles of cleaning and supplies which explains the finding of the low Face to Face care activity by the HCA roles.

2. It is the notable, the higher level of escort of patients by registered nurses and CNM's by comparison to HCAs. It was also noted via the coding and on observation that this was primarily escort of patients for admission to the wards.

Case Study 2 – continued

Identifying the response of the service

- Caroline shared this data with her ED nursing and HCA team
- It was identified that the low percentage of Face to Face care by HCAs was a result of the utilisaiton of the HCA role primarily for Connected Care activities
- The high percentage of nurses time spent on escort duties was identified as being the result of the existing practice which required that all patients needing admission to a ward be escorted by a registered nurse
- The team set about exploring options to implement change in this practice. The ED nursing team, together with nursing colleagues in in-patient wards, developed and implemented a 'protocol for admission escort' which included telephone handover and the escorting of less acute stable patients by HCAs
- The protocol is continuously monitored for safety and effectiveness
- It is planned to undertake a repeat observation analysis in 6 months to determine the impact of this change in releasing registered nurses time to care

Step 4: Role Development

The Irish health service has and is continuing to undergo substantial reconfiguration and re-design. These include restructuring plans through the establishment of hospital groups, along with financial re-configuration (DoH 2012a, 2013a, 2013b, 2013c). Similarly nursing practice has evolved to include new and expanded roles along with extensions to nursing practice. Some of these developments have included the establishment of nurse prescribing of medicinal products (DoHC, HSE, NCNM & NMBI 2007) and more recently prescribing of ionising radiation by nurses (HSE 2009).

Equally a number of reports have focused on the effective utilisation of nursing and also Health Care Assistant roles across the system (HSE 2006; DoH 2011b, 2002, 2001b).

There are a number of reasons why the ED nursing team may wish to review the current utilisation of roles within their team. Before proceeding to undertake a work based activity on role development review, read the following reasons and examples from practice to consider how this section may be of use to you and your team.

1 To assist in achieving role clarity

As roles have developed over the last number of years, with the introduction of nurse specialist roles, multi-task attendant roles and advanced practice roles, it has become more necessary than ever for all team members to achieve clarity about their role. Achieving clarity ensures that all team members have an explicit understanding of the expectations of their role in addition to how and what they contribute to the overall team and more importantly to patient care. This can also assist in overcoming any blurring of roles within the team. For guidance on achieving role clarity ED nursing role profile document (HSE 2014a).

2 Strengthening collaborative work practices

Engaging one's team in a role clarification and development exercise strengthens the overall cohesiveness of the team, fosters genuine appreciation of each other's role in the team and highlights the challenges experienced in these roles. It also acknowledges the maximum potential of all roles to contribute to patient care.

3 To identify role sharing and scope for role development

Due to the ever evolving nature of healthcare and roles within healthcare to meet changing care expectations, expansion and extension to existing roles provide the opportunity to examine the potential for development within other roles in the nursing team.

Undertaking this review facilitates the team to understand more clearly the capability within individual and collective roles to provide additional patient care activities to positively impact on patient outcome and experience. It also provides the opportunity for open discussion and sharing of ideas, concerning the potential for development of team members to undertake roles traditionally undertaken by other team members. Consequently more appropriate utilisation of the roles and capacity within the nursing team can lead to a more effective and efficient team. Equally promoting the development of team roles supports a healthy and happy team, where individual capabilities are recognised within the team and supported to develop.

Reflect on the examples overleaf and consider undertaking a role development exercise with your ED team.

Role Development Exercise

Work Based Activity

Undertake the following activity with your ED nursing and Health Care Assistant team.
Ask your team to discuss the following

Are the current roles within the nursing and healthcare assistant team used effectively and efficiently?
If not list the activities, functions or tasks that could be undertaken/shared by other roles within the team and consider who currently performs, who can perform, who should and who must perform this activity, function, role or task:

Section 3 Workforce Capacity

Template 3 - Role Development Exercise

Activity/ Function/ Role/ Task	Who currently does this	Who can do this	Who should do this	Who ONLY should do this
List actions necessary to implement role development/transfer/sharing - ensure the approach is structured and reviewed **Identify the following to identify a structures approach to this change**				
Person/team responsible for change implementation				
Time frame for completion of change				
Necessary education and training				
Necessary policies/ guidelines/ protocols				

Example D

This is an example from practice in an ED setting in Ireland of role development.

Activity/ Function/ Role/ Task	Who currently does this	Who can do this	Who should do this	Who ONLY should do this
Recording of ECG's	Registered Nurses	Registered Nurses and HCA's	Ideally HCA's	Can be done by all

List actions necessary to implement role development/transfer/sharing – ensure the approach is structured and reviewed

1. Discussion with all HCA's and RN's
2. Discussion and agreement with ED Consultants and Medical teams
3. Discussion and agreement with Senior Nurse Management
4. Planning with the centre of education to develop a training module for HCA's to undertake this role safely and effectively

Identify the following to identify a structured approach to this change

Person/team responsible for change implementation	CNM3 and Lead HCA for Project
Time frame for completion of change	12 months for all HCA's to be trained and assessed to undertake this skill
Necessary education and training	Development of a training and competence assessment module in conjunction with the centre of education team
Necessary policies/guidelines/protocols	Development of a protocol to support the practice of ECG recording by HCA's

Section 4
ED Nursing Workforce Planning Toolkit
Workforce Capability

Introduction

This section provides supportive information and tools for nurse managers to assess, monitor and plan their ED nursing team capability to deliver high quality, safe effective and efficient care. The increasing complexity of healthcare with highly acute patients, coupled with technological advances demands a highly skilled nursing team. Consequently this demands long-term and continuous assessment and planning for professional development.

Capability in the context of workforce planning defines the range of knowledge, skills and experience, within either the existing or future workforce, to deliver safe, effective and efficient high quality care. The importance of staff capability from a nursing workforce planning perspective is to ensure the right person, with the right skills in the right place. This is particularly important given the influence of workforce capability on clinical outcomes, for example educational capability (Aiken et al 2014; Van den Heede et al 2009). Equipping the ED nurse manager to assess, monitor, manage and improve through planning, the capacity of their team to positively influence care outcome, empowers leaders to increase the quality of care delivery in addition to increasing staff engagement and morale via targeted staff development programmes. Equally this knowledge equips the nurse manager to identify the scope for the recruitment of less skilled ED nurses to an already highly skilled team, so as to nurture and develop future ED nurses within the team.

This section fits seamlessly after the completion of Sections 1, 2 and 3 as this next step in assessing the capability of the team will identify not only current gaps in capability to meet existing services, but also the opportunities to design the workforce of the future through strategic capability planning. Figure 1 outlines the approach taken in this section.

Capability Assessment; Step 1: Professional Profiling

In order to ensure nurse managers make the best decisions on the deployment and development of their workforce capability (knowledge, skills and competence) to deliver high quality cost effective care, she/he needs to firstly assess the existing and potential capability of the ED nursing team. In accordance with HIQA standards (HIQA 2012a) regular reviews of development needs of the workforce are necessary to deliver high quality safe care.

Undertaking this effectively demands an examination of the current range of knowledge, skills and specific competence of all grades within the ED nursing team. The EMP (HSE 2012b) has clearly defined a competency development framework which forms the foundation of ED nursing practice. Additionally, the EMP (HSE 2012b) outlines specific ED nurse competencies and role profiles for CNM and RN roles. The tools in this section are designed to be used in conjunction to complement this guidance.

The following subsections outline how to undertake assessment across various grades/roles within the ED nursing team, focusing on academic preparation, mandatory training, discipline and ED specific clinical skills, and composite care competence. Although each assessment is discussed separately, Template 1 provides an efficient way to capture this data collectively. It is expected that in order to populate this Template, you will have knowledge of your team individually. Whilst this toolkit is designed with a nursing focus, it is recommended that this activity, like those outlined earlier, be completed by the multidisciplinary ED team.

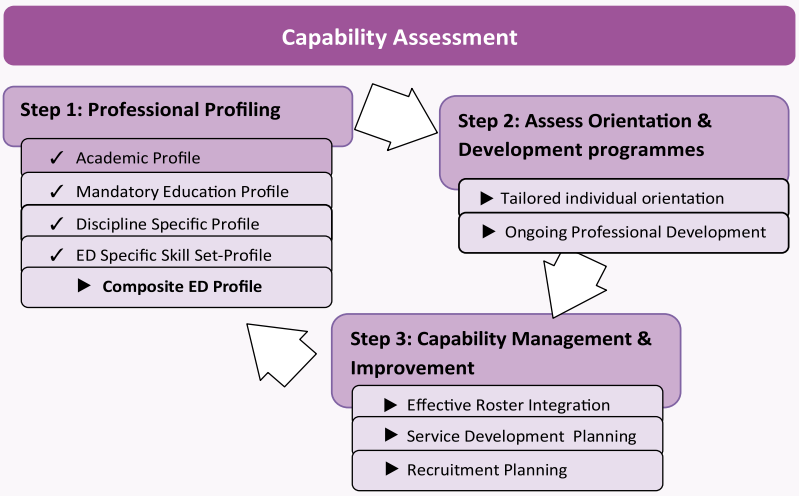


Figure 1 Capability Assessment, Management and Improvement Process

1 Academic Profile

The first stage of capability assessment is to capture the proportion of the ED nursing team who have an academic qualification. For the nursing team this can range from certificate, to degree, higher/ postgraduate diploma and masters. For Health Care Assistants, this will include FETAC certification, to Level 5, now called Healthcare Skills Award (QQI). The importance of conducting a team capability assessment lies in the potential link between level of education and clinical outcomes (Aiken et al 2014).

Assessing the academic profile of the nursing team identifies the following:

- The percentage of the nursing team with degree level education
- The percentage of the nursing team with an ED specific HDip/PG Dip, upon which to plan to support additional capability and/or review recruitment plans
- The percentage of the nursing team with a masters qualification, on which to base plans for developments in Advanced Practice
- The percentage of the nursing team with FETAC Level 5 QQI qualification, upon which to support further academic achievement and/ or development and use of skills acquired at practice level

This information is key to informing the development of an action plan to support the further development of the nursing team to deliver high quality safe care.

When this information is used in conjunction with the data collected in Section 2 on Patient Pathways, the nurse manager can target the academic development of the nursing team to support operational model reconfiguration. For example the development of Advanced Nurse Practitioners, requires Masters Level preparation, for which the nurse manager will have identified the current capability within the nursing team to achieve this.

TIPS FOR CAPABILITY ASSESSMENT

• Use the tools here as a complement to EMP (HSE 2012b) ED Nurse Competency Framework and Specific ED Nurse Competencies (Appendix 13 & 14) along with the specific ED RN and CNM role profiles.
• Consider integration of other nursing competency frameworks such as: Domains of Competence (ABA 2005); Scope of Practice (ABA 2000); NCNM (2008a, 2008b, 2008c, 2009) learn from other ED colleagues.

2 Mandatory Education Profile

The facilitation of the nursing team to attend mandatory education is critical to both patient care delivery and the safety of the workforce. Facilitation of continuous mandatory education supports the protection of workforce safety along with providing clear information and knowledge to support the workforce to fulfill their role and responsibilities for patient safety (HIQA 2012a) and for specific elements of care; e.g. minimal lifting and handling, hand hygiene.

Assessing this profile element on a regular basis, based on the relevant governing legislation/ local policy for training/re-training, facilitates the identification of necessary actions to ensure compliance.

From a workforce planning perspective, this information is equally important, as often, difficulties in releasing staff to attend mandatory training can indicate an underfunded staffing establishment, where there is limited opportunity to release staff for mandatory training. In this instance the data collected in Section 3, using Template 1 Staffing Establishment should be reviewed in conjunction with this data. It is important to note however, that where release from the clinical area for academic education, outweighs release for mandatory training, this demands critical review from a leadership planning perspective.

Template 1 outlines the core data on mandatory training as identified through the EMP (HSE 2012b) along with the dataset collected during the site data collection as part of the toolkit development.

3 Discipline Specific Profile

This next step of capability assessment seeks to identify the capability of the nursing team relevant to specific discipline skills, such as Advanced Life Support for children or neonates, along with assessment of specific Discipline Registration with the Nursing and Midwifery Board of Ireland. This will be specific to the ED setting and its patient profile group. Again this data should be integrated with the data already collected in Section 1 on Demand for Care, where the patient profile may be mapped to the discipline specific skills of the ED nursing team.

For example, if your ED patient profile provides combined care for both adult and children, you will require an increased skill-set amongst your nursing team to care for both adult and children to maximize on the deployment of staff across these clinical care areas as necessary. Similarly if your ED has an increased number of patients presenting with mental health disorders, you may wish to consider how your model of care is operated (see Section 2, Operational Models of Care) in conjunction with the possible RMHN's capability within your nursing team to maximise resource potential to meet patient care needs.

Review of this data to plan for the deployment of the workforce is necessary to ensure that on a shift by shift basis, those with the appropriate discipline specific skills are deployed. This is discussed later in roster deployment. The Template outlines the data collected to capture this capability.

4 ED Specific Skill-set Profile

In this final section of the Template, the ED specific skills of the ED nursing team are assessed. The purpose of this section of the Template is to assess the specific range of skills that the team currently possesses or those that need to be developed to provide the range of care activities demanded by patients in an ED clinical setting. This includes skill extensions, such as wound closure and suturing, which when undertaken by the ED nursing team, within their scope of practice, can facilitate additional capability within the overall team to provide for more efficient care. This component of the Template, provides key information on the potential for the nursing team to undertake specific procedures/ interventions/care and where deficient, to target the necessary training and development of the team.

Section 4 - Workforce Capability

Template 1 Capability Assessment

Insert the total number (Headcount not WTE) of each staff grade at the top beside N=. Insert the total number (Headcount) of each staff grade with the capability in each section. This will allow you to calculate the overall total and percentage. For example: CNM=10; if 5 have a Management Degree this calculates as 50% of the ED CNM Team who possess a Management Degree.

Domain	Capability	CNM N=	RN N=	ANP N=	ANPC N=	CNS N=	HCA N=
Academic Profile	Certificate/ENB in Emergency Nursing						
	Foundation Programme in Emergency Nursing						
	Nursing Degree						
	Management Degree						
	PG Diploma/HDip in Management/Leadership						
	PG Diploma/HDip in Emergency Nursing						
	PG Diploma/HDip in other specialist course						
	Masters in Nursing/Management						
	Currently undertaking an academic course						
	FETAC Level 5						
Mandatory Education Profile	Minimal Lifting and Handling certified current						
	Fire Training certified current						
	CPR certified current						
	Hand Hygiene Training certified current						
Discipline Specific	Registered RGN only						
	Registered RCN only						
	Registered RGN & RCN						
	Registered RGN & Midwife						
	Registered RGN & RMHN						
	ACLS certified current						
	ALS Neonatal certified current						
	ALS Paediatric Programme certified current						
	ALS Trauma Programmes certified current						
	MIMMS/HMIMS certified current						
	EMSB certified current						
Specific ED Skillset	Manchester Triage System/ICTS Training						
	Attended V&C training						
	Practicing V&C						
	Casting and Splinting competent						
	Practicing Casting and Splinting						
	Competent to perform ECG						
	Competent to interpret ECG						
	ABG sampling competent						
	Practicing ABG sampling						
	NIV competent						
	Practicing NIV						
	Male catheterisation competent						
	Practicing male catheterization						
	Suturing competent						
	Practicing suturing						
	Wound closure competent						
	Practicing wound closure						
	Attended cardiac & stroke thrombolysis treatment training						
	Competent to support cardiac & stroke thrombolysis treatment						
	Competent in use of ICT systems						
	Registered Nurse Prescriber						
	Registered X-Ray Prescriber						
	Other as identified by service						

5 Composite ED Profile

As a nurse manager it is necessary to not only assess the team's academic, mandatory, discipline and ED specific capability, but to integrate this data as a composite profile (collective profile), to determine the capability of the nursing team to deliver safe high quality care across the spectrum of ED nursing services. For these purposes, the composite ED profile has been defined as the capability to meet the needs of patients attending; Triage, Minor Injuries, Majors and Resuscitation areas with separation of the composite skill set for Adults and Children where units provide care to both.

The justification for the integration of the skills into a composite ED profile is to support nurse managers to more efficiently plan their team roster to provide the range of composite skills to meet patient care needs across each shift.

Additionally, a composite Nurse Manager Profile has also been designed to support the assessment of CNM/Shift Leader capability, across a succinct number of competencies, specific to the role of the Nurse Manager/Shift leader.

In designing the composite profile, a well known categorical scoring system to assess competence has been used. The categorical scoring system to assess is one that is commonly referred to in nursing literature; Patricia Benner's novice to expert continuum (Benner 1984). Benner's continuum defines 5 levels of proficiency which reflect changes from a reliance on abstract principles to a change in the perception and understanding of a situation to identify the situation as a whole, with only relevant parts (Benner 1984). Brief descriptions of the levels are:

Level I: Novice

Novices are described as beginners, with no experience or confidence, requiring rules to guide practice. Novices lack the ability to use discretionary judgment with an inability to prioritise tasks.

Level II: Advanced Beginner

An advanced beginner demonstrates marginally acceptable performance, and possesses some prior experience. They continue however to require support in the clinical setting to set priorities, with the use of guidelines to recognise the importance of tasks and expectations.

Level III: Competent

A competent practitioner is capable of planning long-term goals, based on analysis of the situation. They provide care relative to these goals and plans, and are capable of contingency planning. They lack the speed and flexibility of a proficient practitioner.

Level IV: Proficient

Experience informs the proficient practitioner what to expect and how to modify their actions in response. They can more readily identify abnormal situations and make decisions in a less labour intensive manner, whilst recognising an evolving situation due to their prior learning from experience.

Level V: Expert

An expert practitioner no longer relies on rules to understand a situation. They are capable of expert level integration of knowledge and experience along with intuitive knowing, to analyse and manage a situation. They possess high level analytical ability and are capable of rapid decisions through anticipating complications/events.

Template 2 provides an easy way to capture the composite capability using Benner's categorical scoring system, by entering the number of nurses/ CNM's who are at each level for each defined domain.

Work Based Activity

Section 4 - Template 2 Composite ED Profile

Composite ED Profile						
Nursing Profile						
Total number of Nurses (Headcount)						
Composite Domain	**Discipline**	**Novice**	**Advanced Beginner**	**Competent**	**Proficient**	**Expert**
Triage	Adults					
	Children					
Minor Injuries	Adults					
	Children					
Majors	Adults					
	Children					
Resuscitation	Adults					
	Children					
Nurse Leaders Profile						
Total number of Nurse Leaders (Headcount)						
Composite Domain	**Competency**	**Novice**	**Advanced Beginner**	**Competent**	**Proficient**	**Expert**
Leadership	Advanced management of patient flow					
	Advanced clinical decision making					
	Advanced knowledge of policy, legal ethical and clinical governance					
	Advanced role modeling					
Human Resources	Advanced roster building					
	Advanced workforce management: staff deployment/allocation, supervision; on a shift basis					
	Advanced activity to support staff retention and engagement					
Communication	Advanced inter-professional communication					
	Effective inter-disciplinary team working to support prompt clinical decisions to affect quality, safety and processes					
Quality, Safety and Risk	Effective monitoring and action plans to support high quality care					
	Effective reporting and management of risks/patient safety concerns					
	Competent project and change management					
Financial Planning	Effective development of business plans to support service developments					
	Effective nursing staffing budgetary management					

Capability Assessment;

Step 2: Orientation and Development Programmes

The second step in capability assessment, involves the assessment of current orientation and development programmes. In accordance with the HIQA Standards on workforce (HIQA 2012a) a formal mandatory induction programme is necessary, along with regular review of development needs that have clear objectives for specific competencies to ensure safe high quality care delivery. In this way the new employee is made aware of his/her role and responsibilities, along with supporting targeted continuing professional development to meet service needs.

Section 4 -

Template 3

Orientation and Development Programmes

Orientation Progamme	Formally	Informally	None
How are orientation/induction programmes for new staff managed in your ED? (this is a specific ED programme)			
How is the orientation/induction programme reviewed for content and currency?			
Following orientation/induction how is clinical supervision/ preceptorship co-ordinated and planned as part of educational opportunities in the department?			
Professional Development	**Yes**		**No**
Is there a formal process for identifying, planning, managing and monitoring personal professional development (PPD/CPD) of your ED team? If yes how often do PPD/CPD meetings take place?			
Is there a formal process for staff performance review in your ED?			
Is there a formal process of clinical supervision/preceptorship for new and existing staff in your ED?			
Are there flexible educational models to meet the challenges of staff release for education (e.g. blended or self directed learning)?			
Is there a formal clinical leadership development programme in your ED? (Clinical leadership programme is the facilitation of nurses to develop as shift leaders through a formal clinical supervision process)			
Is there a formal process in place for the review and development of policies, protocols, procedures and guidelines specific to the ED?			
Is there a formal process to staff to feedback on their orientation/clinical supervision/preceptorship processes in the ED?			

Step 3
Capability Management and Improvement

In the preceding two steps, you have undertaken an assessment of your ED team capability and the current processes you have in place to support and facilitate the development of your team to deliver high quality safe care. In doing so you will have obtained important information upon which to plan the current use of this capability coupled with the necessary planning for the future development and improvement of your team's capability to deliver high quality safe care.

This information is essential to informing:

- Effective roster building and deployment
- Effective service development planning to ensure the delivery of safe high quality care
- Effective recruitment planning

Integrating this information collectively will empower nurse managers to make informed decisions on where the current gaps in the capability of the team exist. Consequently, this supports the development of more robust service planning, such as the investment in education to facilitate the enhancement of advanced practice or rapid assessment as an example. It also provides readily available information on the current and extent of expertise within the team, to support clinical supervision and development of additional skills within the less experienced team members. This supports the development of the novice to expert practitioner as previously outlined in Benner's category.

The following sections provide examples on how this data can be used in the ED setting to support and empower nurse managers, as illustrated with case studies.

1 Effective Roster Integration

Previously in Section 3 Workforce Capacity, Step 2 Rostering was introduced in the context of integrating the data from Section 1 on demand for care, patterns of presentations and the workforce capacity. Similarly, workforce capacity has an integrative role to play in building an effective roster. On a shift basis, the individual areas within the ED, such as Triage or Resuscitation for example, require the allocation of suitably capable and competent nurses to care for patients in these areas of the ED. Having undertaken the work-based activity in Template 2, you will have an increased awareness of the actual capability of your team to be deployed to these areas. Whilst you may already have recognised this in your team informally, you will now have more detailed information on the level of competence based on the use of Benner's categorisation.

This information is particularly useful for example to:

- Identify those with the expert skills
- Identify those who are advanced beginners, and require mentoring/buddying with an expert to develop the advanced beginner to a competent level
- Facilitate use of the roster to plan mentoring/buddying opportunities on a shift basis
- Facilitate planning the roster to provide for a range of capabilities along with competence level across the shift, so as to have additional capacity for re-allocation or deployment of the team as necessary throughout the shift.
- More effectively plan the development of clinical leaders, by ensuring additional capability on a shift to support development through clinical supervision

Review the following Case Study 1 to inform your decisions on how this element of the toolkit may be used.

Section 4 - Case Study 1 - ED Nurse Manager

Joan is a CNM3 in a busy urban mixed adult and children's ED. Recently Joan has witnessed the retirement of a high volume of very experienced nurses from her ED, due to an incentivised retirement scheme. Many of these retirees have been replaced by less experienced new nurses.

Identifying the need of the service

- As an experienced CNM, Joan knows her staff very well. She has not however, undertaken a formal review of the capability of her nursing team, as she had a very experienced team up to this point. She now recognises that she has a range of capability within her team.
- Joan needs to plan for the development of the new staff members, along with ensuring through effective rostering so that patient care is not compromised.

Identifying the response of the service

- Joan and her CNM2s undertook the completion of Template 2 for her current Registered Nurses in her team.
- In addition to this Template they included the staff names, so as to map the capability to the individual staff member.
- Based on this information Joan, and her CNM2's, devised rostering guidelines to ensure that each section had a Proficient/Expert nurse paired with a Novice Nurse.
- On the roster, the allocations of the staff were clearly marked to indicate the buddying of the novice to proficient/expert nurse.
- At a team meeting, Joan discussed with her nursing team, the development plan for the experienced team members to nurture and develop the new team members, which was positively received. She also outlined that the roster would clearly indicate where this was the allocation, and that she would attempt, where possible to keep buddies together to support a nurturing mentoring relationship amongst the team members.
- Subsequent to the team meeting, Joan planned with her CNMs to firstly complete Template 1 for all staff members, and secondly to commence individual PPD planning to not only support the new team members, but equally to identify the potential within the existing team to develop extended roles.

2 Effective Service Development Planning

As our health services continue to undergo significant reconfiguration, modernisation and reform, so too does its employees. This is nowhere more evident than in the tremendous evolution of the nursing and Healthcare Assistant roles, through the establishment of the CNS and ANP roles, and the development of HCA education to FETAC/QQI level with additional clinical skills. Emergency care has not only witnessed this evolution to a high degree, but indeed has been a significant driver of it for example the first ANP in Ireland was in Emergency Nursing.

As discussed earlier in Section 2, Operational Models of Care, there is considerable scope for ED teams to review their current model of care, with a view to examining the potential for further development opportunities. Where these opportunities exist, it will be necessary to determine the capability of the nursing team to proactively and promptly respond. This demands knowledge and indeed planning on behalf of the nurse manager to ensure that the capability within the nursing team either exists, or is being developed to support these developments.

Whilst it is recognised that PPD/CPD is a core component to this element of the toolkit, it is not within the scope of the toolkit to provide detailed guidance on PPD/CPD. However the importance of its integration with this element of the toolkit is acknowledged. Currently the Nursing Board of Ireland is in the process of establishing a robust process for CPD which will guide and support nurses and nurse manager in this element of their practice.

Case Study 2 overleaf demonstrates the usefulness of the data collected in Template 1 in empowering the nurse manager to engage in service planning.

3 Effective Recruitment Planning

Previously in Section 3 Workforce Capacity, Step 2 Rostering was introduced in the the context of integrating the data from Section 1 on demand for care, patterns of presentations and the workforce capacity. Similarly, workforce capacity has an integrative role to play in building an effective roster. On a shift basis, the individual areas within the ED, such as Triage or Resuscitation for example, require the allocation of suitably capable and competent nurses to care for patients in these areas of the ED. Having undertaken the work-based activity in Template 2, you will have an increased awareness of the actual capability of your team to be deployed to these areas. Whilst you may already have recognised this in your team informally, you will now have more detailed information on the level of competence based on the use of Benner's categorisation.

This information is particularly useful for example to:

- Identify those with the expert skills
- Identify those who are advanced beginners, and require mentoring/buddying with an expert to develop the advanced beginner to a competent level
- Facilitate use of the roster to plan mentoring/buddying opportunities on a shift basis
- Facilitate planning the roster to provide for a range of capabilities along with competence level across the shift, so as to have additional capacity for re-allocation or deployment of the team as necessary throughout the shift.
- More effectively plan the development of clinical leaders, by ensuring additional capability on a shift to support development through clinical supervision

Review the following case study to inform your decisions on how this element of the toolkit may be used.

Section 4 - Case Study 2 - ED Nurse Manager

Áine is a CNM3 in a busy urban adult ED. Áine's hospital has recently received confirmation of funding for a new ED build. The new ED build will include, amongst other developments additional minor injury assessment areas, which will provide for greater access to see and treat minor injuries. Áine is aware that she will need to plan for these developments, as in her current minor injuries area she has just one ANP.

Identifying the need of the service

- As the service develops, Áine is aware that she will need additional capability within her nursing team, particularly in relation to minor injuries.
- Áine reviewed with her ED interdisciplinary team the impact of the additional minor injuries assessment and treatment cubicles, and the potential workforce configuration.
- The type of service currently offered, including hours of operation of the current minor injuries was discussed and the proposed plan is to extend the current hours of operation to a 7-day service.
- She is aware that this will require an additional 3 Advanced Nurse Practitioners and capability of nurse prescribing and x-ray prescribing within her nursing team.

Identifying the response of the service

- Áine, along with her CNM nursing team undertook to complete Template 1 in this section of the toolkit.
- She then discussed her results with her nursing CNM team, which identified that of their 44 RN's, 2 currently possessed a Masters qualification, 5 were registered x-ray prescribers, however none had prescriptive authority.
- Áine is currently satisfied that her team possesses the necessary capability in x-ray prescribing; however there are significant deficits for nurse prescribing of medicinal products.
- Áine is also aware that there may be current capacity for the development of ANP potential within the service, with those nurses who currently possess a Masters.
- Áine met with her Assistant Director of Nursing and subsequently met with the Director of Nursing to discuss the developmental plan, and the current capability within her nursing team along with the developmental needs.
- It was agreed to provide funding support for two staff to undertake the Registered Nurse Prescribing Course, this year, along with support for those with Masters qualification to undertake the advanced practice module.
- This was agreed as the commencement of the developmental plan, to prepare for the expansion of the unit over the next two years.
- Áine, met with the nursing team to advise of the necessary development opportunities within the unit, to seek expressions of interest for applications for the relevant academic courses.

Section 4 - Case Study 3 - ED Nurse Manager

Liam is an Assistant Director of Nursing in a busy rural adult ED. Over the past 4 months Liam has had four very experienced ED nurses leave his ED through retirement and resignation. Liam also manages the Coronary Care Unit, and has experienced a higher rate of attrition in that department. Attempting to recruit experienced CCU nurses have proven unfruitful, and therefore Liam is currently considering the use of a recruitment agency to support the recruitment of experienced CCU nurses. This however is extremely costly for his hospital. Through communication with his colleagues across the Emergency Nursing Care setting, Liam is aware of their current challenges to finding experienced ED nurses in the labour market. To assist Liam in planning for the recruitment, he has convened a meeting with the CNM3 in ED to discuss how to meet the staffing needs of the ED in order to continue to provide patient care quality and outcomes.

Identifying the need of the service

- Liam reviewed the current nursing workforce with the CNM3.
- He requested the CNM3 to complete Template 2 of the tools in this section to identify the current composite profile of the nursing team. He also requested that Template 1 be completed to review the academic qualifications of the nursing team in the ED.
- Liam was aware from other recruitment campaigns that experienced nurses for specialist areas were proving difficult to recruit, and therefore he wanted to explore the current workforce capability within the existing ED team.
- On discussion with the CNM3, she advised that the perception of the ED nursing team, was that they lacked “senior nurses” and needed to recruit experienced nurses.

Identifying the response of the service

- As the first step, Liam and the CNM3 reviewed the results of the data collected in Template 2. This data revealed the following:

Nursing Profile						
Total number of Nurses (Headcount)						46
Composite Domain	**Discipline**	**Novice**	**Advanced Beginner**	**Competent**	**Proficient**	**Expert**
Triage	Adults	0	0	2 (5%)	12 (25%)	32 (70%)
Minor Injuries	Adults	0	0	0	2 (5%)	44 (95%)
Majors	Adults	0	0	7 (15%)	34 (75%)	5 (10%)
Resuscitation	Adults	0	0	5 (10%)	9 (20%)	32 (70%)

- Based on this data, Liam and the CNM3 agreed along with a review of Template 1 data, that there was considerable expertise in the nursing team.
- Both Liam and the CNM3 presented this data to the nursing team, and they too agreed following review of the data that they had failed to recognise their own nursing team skill level.
- Consequently, Liam and the CNM3 reviewed the skills they needed within the unit, which were Venepuncture and Cannulation, NIV, ACLS, and experience managing acutely unwell patients. Based on this, they were satisfied that their ED team could reasonably accommodate experienced nurses without ED experience who could be facilitated to develop as ED specialist nurses, through a clinical supervision programme.
- Subsequently, Liam and his ED nursing team recruited 4 new members to their team with a planned orientation and subsequent formal clinical supervision development programme.

Section 5
ED Nursing Workforce Planning Toolkit
Nursing Outcomes

Introduction

A primary goal of the nursing workforce is to deliver safe, high quality care. However alterations to the workforce can impact to a varying degree on the ability of the workforce to maintain safe high quality care. In the absence of measurement of care outcomes, it is challenging to assess this impact. This section of the toolkit focuses on the contribution of the nursing workforce to quality care through the measurement of nursing indicators. This section integrates with the data already measured in the previous sections on demand for care, organisational characteristics, workforce capacity and workforce capability whereby there is an inter-relationship between alterations in the workforce with alterations in the quality of care delivered.

- Changes to workforce **capacity** through loss of WTEs and subsequent higher nurse to patient ratios;
- changes to workforce **capability** through loss of expertise within the nursing team;
- changes to the **demands** placed upon the workforce by increasing patient presentations/ changing profile of presentations with increasingly complexity which demand a higher proportion of nursing care time and intervention; all have the potential to affect patient outcomes.

Measuring just one of these elements in isolation is fraught with difficulties to imply inference, however when viewed collectively and compared to continuous trends on nursing outcomes, this integrative robust data becomes more meaningful.

Possibly one of the strongest sources of evidence for a link between nursing and outcomes is the systematic review by Kane et al (2007). This review demonstrated the impact of a single nursing variable; nursing quantity, and the extent to which it influences outcome indicators. The challenge however lies in the indicators, which were deemed to be less nurse-sensitive.

What this evidence suggests however, is the appropriateness of using nursing workforce and staff variables as indicators (Griffiths et al 2008). Due to the extent in which patient outcomes are influenced by the interventions of multiple professions, nurse sensitive outcome indicators have emerged, as described by Doran (2003) which reflect to a greater extent the specific contribution of nursing care to outcomes.

Similarly the development of nursing metrics and nurse sensitive KPI's, linked to the nursing workforce have emerged more recently. As described in the introductory chapter of this toolkit, the approaches to workforce planning, include those of the acuity/ dependency quality. Such approaches have developed to incorporate quality outcome indicators that are nurse sensitive. One such example is that of the Safer Nursing Care Tool, which ascertains the impact of actual staffing levels on the quality of care delivered by monitoring nurse sensitive indicators (Hurst 2010). Indeed the use of these indicators across multiple NHS hospitals in the UK facilitated benchmarking of nurse staffing level and outcomes. In this instance the data is used to reflect the ability of the current workforce to deliver quality care, benchmarked across similar hospitals for a core set of nursing sensitive outcome indicators.

More recently Ireland has witnessed the emergence of nursing metrics and nurse sensitive outcome indicators, for example the ONMSD Nursing Quality Care - Metrics Initiative (HSE 2015), which measures processes of nursing care. Equally there are a suite of indicators for Emergency Care as measured by the Emergency Medicine Programme, such as patient experience times. However, these are not nurse-sensitive which is important in the context of this toolkit.

This section of the toolkit should also be used in conjunction with The Dartmouth Institute Microsystems Academy (TDIMA) Clinical Microsystem Methodology.

1 What are indicators

Indicators are specific and measurable elements of practice that can be used to assess the quality of care. They can act as flags or alerts about the quality or safety of care delivered. Indicators can be developed to measure various elements of care delivery, such as those described by Donabedian: structure, process and outcome.

- Structural indicators measure elements related to, for example, equipment;
- Process indicators measure how well care is delivered relevant to a defined standard, for example the standard of nursing documentation;
- Outcome indicators measure the impact on health, such as pain, mortality or failure to rescue. An excellent reference guide to the development of indicators is that by HIQA (2013b) on developing key performance indicators and the HSE KPI template with guidelines (2013d).

2 Why might we measure indicators

Whether your indicator measures the structure, process or outcome from your nursing team's care, measurement provides you with evidence regarding the performance of your nursing team. This information is critical to understanding the investment in and the development of your workforce for example, to become more productive, and where necessary based on the results, influence policy, practice and decisions on the necessary redesign of the workforce.

Measurement of indicators;

- Provides key data on performance
- Act as flags or alerts – by providing an indication/inference about care quality
- Identifies good practice and areas for improvement
- Provides comparability through trending, or interdepartmental benchmarking
- Promotes accuracy, accountability and informed decision making
- Can influence policy and practice by identifying performance levels
- Can inform decisions regarding the potential or needs within the workforce when coupled with workforce data/measures such as Demand for Care, Workforce Capacity, Workforce Capability as discussed in the preceding sections.

3 Identifying and writing Nurse Sensitive Indicators

The process of identifying and writing indicators involves the following 4 Steps

Figure 1 Process for identifying and writing indicators

Step 1
This first step prompts the review of the current indicators either locally or nationally which could be adapted for use in your ED.

Step 2
This step prompts the consideration of the necessary key stakeholders to involve in designing the indicator.

Step 3
Step 3 sets out the core considerations to defining an indicator.

Step 4
This final step guides the continuous reporting and review of the indicator.

There are two additional worked examples of indicators subsequent to Template 1 to demonstrate both a structure and outcome indicator.

Work Based Activity

Section 5 - Template 1

This template should be undertaken in conjunction with the guidance from HIQA (2013b) and the HSE (2013d). To undertake this Template completion in practice, it is recommended that your ED team appoint a facilitator to guide your team through the template in conjunction with the HIQA/HSE KPI template.

		Yes	No
Step 1	Are there locally developed indicators which could be used/adapted for use in your ED?		
Review current indicators	Are there hospital group developed indicators which could be used/adapted for use in your ED?		
	Are there hospital group developed indicators which are currently used in another hospital within the group which could be used in your ED?		
	Are there nationally developed indicators which could be used/adapted for use in your ED?		
	Are there internationally developed indicators which could be used/adapted for use in your ED?		
Step 2	Has the expertise required to develop the indicators been defined?		
Gather Key Stakeholders	Is the expertise available within the existing ED team?		
	Does your ED team need to consult with external expertise either outside of your ED or outside of your Hospital?		
	Has your team considered the inclusion of service users in the development of your indicator?		
	Has your team considered the inclusion of key stakeholders within your hospital group from other EDs to support the design of a collaborative indicator?		
	Has your team identified the level of support required from management or members of the multidisciplinary team to integrate the indicator into practice?		
	Has your team defined the level of commitment required by the team stakeholders to develop the indicator?		
	Has your team defined the timeframe for the completion of the development of the indicator including the timeframe for pilot test of the indicator?		
Step 3	Is your indicator one which is likely to have the greatest impact on patient safety or outcome?		
Defining the Indicator	Has your indicator been defined as a Structure/Process/Outcome indicator?		
	Does your chosen indicator have the potential to influence care?		
	Has your team defined the goals of the indicator and intended audience?		
	Is there available evidence to support the appropriateness of the indicator?		
	Is this evidence and the proposed indicator acceptable to the stakeholders, management and wider ED team?		
	Has the indicator been deemed relevant and nurse sensitive by the ED nursing team?		
	Is the defined indicator sensitive to detect small changes in care quality?		
	Has the data collection process been defined to include; data collection method & source (e.g. observation/health record audit); data collection frequency; data collection minimum data set; and data collectors?		
	Is there elements of the data to be collected that are already collected by another source which could be used to reduce the burden on data collectors?		
	Has the burden of data collection on current resources been quantified to ensure no impact on care delivery?		
	Has the data analysis and reporting process been defined ; to include reporting schedule; reporting structure (internally and externally to the ED and hospital); reporting timeline to facilitate timely practice change as necessary?		
	Has the threshold/target been defined?		
	Is there a defined timeframe for pilot test of the indicator?		
	Is there a defined evaluation methodology post pilot test of the indicator; e.g. data collector feedback, data analyst feedback, validity, reliability, applicability and relevance?		

Step 4 Reporting & Review	Is there a defined process to action the performance of the indicator to support improvement as necessary
	Is there a defined process for continuous review of the indicator?

Section 5 - Example A

This first example is an example of a Process indicator. It integrates the KPI template from HIQA (2013b) and HSE (2013d) KPI guidance.

1	**KPI Title**	Percentage of adult patients for whom triage is completed within 15 minutes of registration, and in accordance with the Manchester Triage System Audit Tool as defined by the National Emergency Medicine Report (HSE 2012b). KPI measures both the timeliness and adherence to the process of triage for adult patients (16 years and over).
2	**KPI Description**	This refers to the number of patients who were triaged in accordance with the Manchester Triage System Audit Tool and in a timely manner as defined by the National Emergency Medicine Report (HSE 2012b).
3	**KPI Rationale**	Triage is a system of clinical risk management employed in Emergency Departments to manage patient flow safely when clinical need exceeds capacity. A triage system is intended to ensure care is defined according to patient need and in a timely manner. The National Emergency Medicine Programme (EMP) was tasked by the HSE to support implementation of the recommendations of the Report of the investigation into the quality, safety and governance of the care provided by the Adelaide and Meath Hospital, Dublin incorporating the National Children's Hospital (AMNCH) for patients who require acute admission as identified by the Health Information and Quality Authority, May 2012 (HIQA Tallaght Report 2012b) 1 that "The Manchester Triage System must be implemented, managed and periodically evaluated to ensure it is being applied effectively in all hospitals". The EMP had recommended that the Manchester Triage System (MTS) should be the triage system used for all adult patients in EDs Nationally Triage is not undertaken in Local Injury Units (LIUs). The EMP Emergency Nursing Interest Group (ENIG) advised that the MTS Audit Tool should be used to audit triage practice and the EMP has developed a guidance document to support implementation of the MTS Audit Tool in EDs in Ireland. References National Emergency Medicine Report (HSE 2012b) The Report of the investigation into the quality, safety and governance of the care provided by the Adelaide and Meath Hospital, Dublin incorporating the National Children's Hospital (AMNCH) for patients who require acute admission, Health Information and Quality Authority, May 2012 (HIQA Tallaght Report HIQA 2012b). Emergency Triage 3rd Ed (2013) Manchester Triage Group BMJ Books Blackwell Publishing ✓ Person Centred Care ✓ Effective Care ✓ Safe Care ✓ Better Health and Wellbeing ✓ Use of Information ✓ Workforce ✓ Use of Resources ✓ Leadership, Governance and Management
	Indicator Classification	
4	**KPI Target**	Target compliance of 100% of patients triaged within 15 minutes of registration. 95% compliance with the Manchester Triage System Audit Tool/as defined by the National Emergency Medicine Programme (HSE 2012b).

5	**KPI Calculation**	**Numerator:** 2% of new adult attendances for the previous month **Denominator:** Total number of Emergency Department Clinical Records reviewed and the total number of new adult ED attendances for the month reviewed. KPI will be expressed as a Percentage% **Inclusion criteria**: New Adult ED attendances **Exclusion criteria**: Paediatric and Scheduled return ED patients
6	**Data Source** **Data Completeness** **Data Quality Issues**	Emergency Department Clinical Record Coverage: All ED's within the hospital group 100% Coverage expected
7	**Data Collection Frequency**	❑ Daily ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Bi-annually ❑ Annually ❑ Other
8	**Tracer Conditions**	Triage occurs within 15 minutes of registration. Correct use of presentational flow chart. Correct use of presentational specific discriminator. Pain score recorded. Correct triage category assigned (based on patient presentation & discriminators), Triage score legible, dated, timed & signed, Re-triaged where necessary
9	**Minimum Data Set**	ED Identifier/ID of Hospital Patient Age (To ensure that they are above 16 years) Date and time of patient registration in the ED Date and time patient triaged in ED Date and time of data collection Name and grade of data collector Confirmation of completion of triage in accordance with the MTS/ ICTS Audit Tool using the tracer conditions above in section 8. Confirmation of completion of triage within 15minutes of registration
10	**International comparison**	Manchester Triage International Reference Group
11	**KPI Monitoring**	KPI will be monitored on a (please indicate below) basis: ❑ Daily ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Bi-annually ❑ Annually ❑ Other Please indicate who is responsible for monitoring this KPI: Emergency Department Clinical Nurse Manager 3, and Director of Nursing at Hospital Group Level.
12	**KPI Reporting Frequency**	❑ Daily ❑ W eekly ❑ Monthly ❑ Quarterly ❑ Bi-annually ❑ Annually ❑ Other
13	**KPI Report Period**	Bi-annually in arrears (e.g. June data reported in July)
14	**KPI Reporting Aggregation**	Reporting aggregation will be undertaken at hospital group level to give overall hospital group performance indicators
15	**KPI Reported in which reports**	Director of Nursing reports at local and group hospital level.
16	**Web Link to Data**	Not Applicable
17	**Contact Details for Indicator Lead**	ED Hospital 1: ED Hospital 2: ED Hospital 3: ED Hospital 4:

Section 5 - Example B

TIPS FOR DEVELOPING KPI'S

• Review the HSE National Servise Plan KPI's for the service for the current and past years, which contain a suite of KPI's across a range of services and variant KPI focus

This second KPI example is an Outcome Indicator, as it measures both the individual and team staff engagement levels of ED staff. It integrates the KPI template from HIQA (2013b) and HSE (2013d) KPI guidance.

1	**KPI Title**	Team work engagement level is high as guided by Modified Utrecht Work Engagement Scale
2	**KPI Description**	This KPI indicates the degree of energy and enthusiasm of the ED team to engage positively in their work.
3	**KPI Rationale**	Work engagement has been defined by Schaufeli et al (2002b:72) as *'a positive, fulfilling work related state of mind that is characterized by vigor, dedication and absorption'.* Work engagement has been listed as an important construct for performance and well- being (Halbesleben 2010). Engaged staff display a positive attitude towards work and high levels of energy. These engaged staff tend to stay healthy in stressful environments and will actively assist their colleagues
	Indicator Classification	√ Person Centred Care √ Effective Care √ Safe Care √ Better Health and Wellbeing √ Use of Information √ Workforce √ Use of Resources √ Leadership, Governance & Management
4	**KPI Target**	Positive Team Work Engagement Levels as measured by a target result using the Ultrecht Work Engagement Scale (UWES)* of: UWES-17 modified for teams – long version UWES-9 modified for teams – short version
5	**KPI Calculation**	Team work engagement is as a shared, positive and fulfilling motivational emergent state of work related wellbeing. Norms as per UWES **Denominator:** Team dedication Team support Shared strong involvement in work **Inclusion criteria**: ED Nursing and Support Team **Exclusion criteria**: Not applicable

*http://www.wilmarschaufeli.nl/ please ensure that you are compliant with the 'Notice for potential users of the UWES'

Section 5 - Example B cont'd

6	**Data Source** **Data Completeness** **Data Quality Issues**	Departmental survey Coverage: all ED's within the hospital group 100% Coverage expected
7	**Data Collection Frequency**	❑ Daily ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Bi-annually ❑ Annually ❑ Other
8	**Tracer Conditions**	Correct explanation of survey to staff and team Full completion of all questions on the survey
9	**Minimum Data Set**	A validated measure of work engagement Example Ultecht Work Engagement Scale UWES-17 or 9 which can be used for individuals or teams. http://www.wilmarschaufeli.nl
10	**International comparison**	Evidenced based literature within health sector and across sectors. Data comparisons and norms outlined in UWES manual http://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test_manual_UWES_English.pdf
11	**KPI Monitoring**	KPI will be monitored on a (please indicate below) basis: ❑ Daily ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Bi-annually ❑ Annually ❑ Other Please indicate who is responsible for monitoring this KPI: CNM3
12	**KPI Reporting Frequency**	❑ Daily ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Bi-annually ❑ Annually ❑ Other
13	**KPI Report Period**	in arrears (e.g. June data reported in July)
14	**KPI Reporting Aggregation**	Departmental
15	**KPI Reported in which reports**	Departmental use only
16	**Web Link to Data**	Not Applicable
17	**Contact Details for Indicator Lead**	ED Hospital 1: ED Hospital 2: ED Hospital 3: ED Hospital 4:

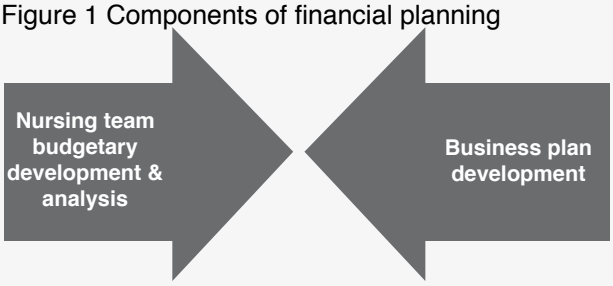
Section 6
ED Nursing Workforce Planning Toolkit
Financial Planning

Introduction

In this final section the focus is on supporting nurse managers in the ED in the financial planning of their workforce. It is acknowledged that devolved budgeting is not currently in existence at unit level, which limits the complete ownership of the nursing resource by the nurse manager, operating within a defined budget. In 2011, the Department of Health UK announced the devolution of ward budgets to ward sisters, recognising that they were best placed to make the decisions on the most efficient utilisation of the workforce and therefore should have control. This signaled the shift in ownership and control of the ward budget along with the decisions on the allocation of resources.

It is not possible within the scope of this toolkit, to cover all aspects of financial planning; hence this section will simply introduce two selected topics related to financial resources and the essential concepts of financial planning to enable nurse managers to connect these skills to support effective decisions in relation to their workforce and financial analysis of this resource. These two topics are: 1) nursing team budgetary development and analysis and 2) business plan development.

Figure 1 Components of financial planning



Nursing Team Budgetary Development and Analysis

The greatest expenditure in any service is generally on staffing (Liebler & McConnell 2004). How a service uses its resources impacts directly on the quality and safety of care (HIQA 2012a). In your hospital a budget will be set at the beginning of each financial year. Actual spend is then compared with the original budget allocation on an ongoing basis and finally at year end. Dependent upon the configuration of your hospital, budgeting may be devolved to directorate level, with planning, monitoring, control and reporting at this level. The purpose of the budget is to plan and control operations and finance and incorporate monitoring, control and measurement of performance/activities (Greenberg 2008). They also serve in forecasting the expected expenditure to year end, based on the month by month budgetary analysis.

Figure 2 outlines the process for establishing / developing and managing your budget.

Figure 2 Budget Process

1 Terminology and approaches to budgeting

The terms commonly used in describing and analysing a budget can include (Sorensen Marshall 2011):

- **Revenue**: income generated or received for goods or services
- **Expenditure**: costs of the activities needed for the organisations operations
- **Variance**: the difference between the projected cost and the actual cost
- **Operating budget**: daily income and costs in one year to include personnel, overheads and supplies
- **Capital budget**: long term investments and buildings
- **Cash budget**: monthly income and cash actual/expected
- **Long range budget:** 3-10 year strategic budget

Broadly speaking budgets can be categorised into two different approaches: historical/incremental budgets or zero based budgets (Sorensen Marshall 2011; NHS Scotland 2013).

The historical/incremental budget

This is by far the most commonly used and simplest approach. In this approach the previous years' budget is used as the baseline for the forthcoming year. There are adjustment increases or decreases based on the projected expenses for the forthcoming year (NHS Scotland 2013). The basic assumption of this type of budget is that revenue and expenditure will remain largely constant/unchanged. The disadvantage with this approach however, is that change is not inherently fostered, thereby limiting the ability or alignment of the budget to organisational goals/objectives as a changing dynamic (Sorensen Marshall 2011).

It is likely that your department budget is based on a historical/incremental budget. The advantages for the novice nursing financial analyst, is that this is a relatively simply constructed budget, which demands far less expertise to construct and interpret than that of a zero-based budget.

The zero-based budget

The zero-based or budgeting by objectives approach in contrast to the incremental budget makes no assumptions on the continuation of services or activities. Specific justified objectives must be set for the service budget. A significant strength of this approach, however is that it provides the basis for the discontinuation of ineffective or inefficient services/ initiatives, thus allowing for the creation of new innovative services/initiatives (Sorensen Marshall 2011). A limitation of this approach however, is increased time and expertise to construct this type of budget. This can pose a greater challenge for the novice nursing financial analyst to both construct and interpret this type of budget.

Finally, budgets can be influenced by specific timeframes which can be used to structure the budget. These can be either:

- A fiscal year budget: budget from 1st January to 31st December
- Rolling budget: budget constructed for a specific timeframe such as 6 months, in which time a subsequent budget is constructed during the life of the current budget. Thus budgets are continuously in use and in development (Sorensen Marshall 2011)
- Trended budget: service peaks and troughs are apportioned in the budget to allow for a similar ttern of available budget during these times

Once you have identified the type of budget used in your service and developed a clearer understanding of the terminology and approaches to budgeting the next stage is the development and management of your ED budget

2 Getting the right people involved

The first step in budget development is to gain involvement and commitment from those in your hospital, responsible for the planning, monitoring, control and reporting of the financial budget relevant to the workforce. This will foster and build collaborative financial relationships to support you in this aspect of your role, whilst equally developing your confidence in financial language and issues related to finance. This is likely to include:

- Human resource personnel
- Finance personnel
- Accounting personnel
- Directorate/Divisional nurse manager or Assistant Director of Nursing

It is advisable to establish regular communication through meetings, and structured sharing of reports and data on the financial components of your ED workforce with these key stakeholders.

Accessing the expertise of these personnel within your hospital is critical to empowering you and your team to gain maximum benefit on how to analyse and plan the utilisation of your workforce from a financial budgetary perspective.

3 Gathering the relevant information

Once you have established the key stakeholders to support your development of an ED budget, there is key data you will need to identify and collect succinctly.

Firstly you will need to consider the purpose and use of this data in the context of your role as ED nurse manager, to support you in the following;

- Integration of workforce and financial planning
- Effective financial planning
- Integration of workforce expenditure to outcome indicators including workforce capacity and capability
- Empowering decisions on the use of available resources within the current budget
- Supporting financial component of business case developments
- Supporting informed decisions on opportunities for workforce reconfiguration for new services

The information you will need includes:

- Funded WTE establishment
- Actual average WTE per month
- Grade mix of CNM based on salary scale point
- Grade mix of RN's based on salary scale point
- Grade mix of HCA's based on salary scale point
- Actual WTE usage of Nurse/HCA Bank/Agency per month
- Calculation of actual cost per individual staff member per annum inclusive of PRSI, Pension contribution and estimated scheduled overtime per staff grade, to formulate the unit funded establishment cost
- The actual WTE cost per month, per grade

Once you have gathered this data, the next stage is the construction of your workforce budget in order to manage it appropriately.

4 Budget Construction and Management

Once you have collected the data relevant to your nurse staffing budget, the next step is to construct this information into a useable format in order to critically analyse and manage your nursing budget. As discussed in the earlier section on the approaches to budgeting, the most common approach is that of the historical or incremental budget. This is likely to be the budget in use in your hospital, and therefore can be applied to your ED nursing team.

Example A overleaf provides a fictitious ED annual budget calculated from the integration of the gathered data. The figures are based on the current years' expected expenditure for the service, which is based on the previous year's expenditure with adjustments for incremental salary increases and decreases.

Integrated into this data also is the anticipated expenditure on overtime. In collaboration with your HR and Financial team at your hospital, you will be able to create an accurate budget for your ED with actual figures for overtime for example, based on current and previously trended data. Included in this example is also the calculation of PRSI, and pension costs which are important to factor into your budget particularly as new staff commence employment, or indeed when developing a business case to support an additional WTE within the service.

This is the first step to understanding the current construction of your ED workforce from a financial perspective.

Once you have the baseline annual budget constructed the next step is to oversee and manage the budget. This firstly requires you to develop an operating budget, which provides you with month by month data on the expenditure of your budget, and more importantly the variance. As discussed previously variance is described as the difference between the projected cost and the actual cost. One of the most useful reports to oversee and manage your budget is the variance report. Assessing patterns in variance is critical to understanding the existence of variance to determine: the reason for variance, potential to mimimise or indeed maximise on the variance, and impact on future budgets based on variance.

Example B demonstrates how to construct a monthly operating budget. In the example the monthly operating cost has been calculated from the annual budget cost. Again this is where the collaborative relationship with your finance colleagues is important to calculating the correct expected monthly expenditure. From this the variance can be calculated.

In the example, the WTE use and cost of Agency and Bank Nursing and HCA is also included in the monthly operating budget, as this is a variable cost, which lends itself to more flexible control by the nurse manager. The operating budget also includes the WTE for each grade, which allows for the calculation of the grade/skill mix of the department on a monthly basis. This is particularly useful information in determining future reconfigurations of the service and the potential for the development of new initiatives such as Advanced Nursing Practice within the existing budget, made possible by grade/skill mix savings. This is a key role of the ED nurse manager in managing the budget.

The case study illustrates the use of the data contained within the monthly operating budget to develop new initiatives.

Section 6 - Example A

Annual Nursing Staff Operating Budget

This is an example (fictitious) of an ED staffing annual budget, developed from data collected in collaboration with the HR and Finance department. Whereby you have current vacancies in place you can calculate the potential cost of this post at the mid-point of the salary scale.

Grade	WTE Funded	WTE in Post	Point on salary scale	Salary	Premium Payments estimated at 20%	PRSI 10.75%	Pension 4%	Total for all staff grades
CNM3	1	1	6th	€60,382	€0	€6,491.06	€2,415.28	**€69,288.34**
CNM2	10	9	5@6th	€52,067	€10,413.40	€6,716.64	€2,499.21	**€358,481.25**
Vacant WTE calculated at midpoint salary scale point			2@4th	€49,659	€9,931.80	€6,406.01	€2,383.63	**€136,760.88**
			2@2nd	€47,886	€9,577.20	€6,177.29	€2,598.52	**€131,878.03**
			1@5th Vacant	€50,874	€10,174.80	€6,562.74	€2,441.95	**€70,053.49**
RN	50	46	2@12th	€42,469	€8,493.80	€5,478.50	€2,038.51	**€116,959.62**
			10@9th	€38,683	€7,736.60	€4,990.10	€1,856.78	**€532,664.84**
			14@7th	€36,137	€7,227.40	€4,661.67	€1,734.57	**€696,648.96**
			16@6th	€34,666	€6,933.20	€4,471.91	€1,663.96	**€763,761.24**
			4@4th	€37,710	€7,542.00	€4,864.59	€1810.08	**€207,706.68**
			4@6th Vacant	€34,666	€6,933.20	€4,471.91	€1,663.96	**€190,940.28**
ANP	5	4	1@5th	€61,210	€12,242	€7,896.00	€2,938.08	**€84,286.08**
			2@3rd	€56,996	€11,399.20	€7,352.48	€2,735.80	**€156,966.96**
			1@1st	€54,870	€10,974	€7,078.23	€2,633.76	**€75,555.99**
			1@5th Vacant	€61,210	€12,242	€7,896.00	€2,938.08	**€84,286.08**
HCA	5	3	1@9th	€32,906	€6,581.20	€4,244.87	€1,579.88	**€45,311.55**
			1@7th	€31,319	€6,263.80	€4,040.15	€1,503.31	**€43,126.26**
			1@5th	€29,809	€5,961.80	€3,845.36	€1,430.83	**€41,046.99**
			2@5th Vacant	€29,809	€5,961.80	€3,845.36	€1,430.83	**€82,093.98**
Total Annual Estimated Budget								**€3,887,817.50**

To calculate the total salary for example of a CNM2 at 6th point of the salary scale:

Direct Salary Cost

A	**Pay**	Midpoint Range	€52,067 + 20% Premium Pay (Total = €62,480.40)
B	**Direct Salary Cost**	A+ PRSI (10.75%)	+ €6,716.6
C	**Total Salary Cost**	B+ Pension (4%)	+ €2,499.21
Total Cost		**A+B+C**	€62,480.40 +€6,716.6+€2,499.21 =€71,696.21

Example B

Nursing Monthly Operating Budget

The below example demonstrates a constructed monthly nursing budget.

Grade	Annual Budget	January			
		Period Budget	Expenditure	Variance	WTE Used
CNM3	□69,288.34	□5,774.03	□5,774.03	□0	1
CNM2	□697,173.65	□58,097.80	□52,260.01	□5,837.79	9
RN	□2,508,681.62	□209,056.80	□193,145.14	□15,911.66	46
ANP	□401,095.11	□33,424.59	□26,400.75	□7,023.84	4
HCA	□211,578.78	□17,631.56	□10,830.83	□6,841.16	3
Subtotal	□3,887,817.50	□323,984.79	□288,410.76	□35,574.03	
Nurse Bank	□-	□-	□13,480	□13,480	2
Nurse Agency	□-	□-	□9,360	□9,360	1
HCA Bank	□-	□-	□6,240	□6,240	2
HCA Agency	□-	□-	□9,360	□9,360	2
Subtotal	□-	□-	□38,440	□38,440	
Total	□3,887,817.50	□323,984.79	□326,850.76	-□2,865.97	70

Funded Grade Mix	Nursing	HCA	Period Grade Mix	Nursing	HCA
	93%	7%		90%	10%

Columns 1 and 2 provides the breakdown of grade and their associated annual budget.
The subsequent columns then provide the breakdown on the use of the budget for the January period as follows:

Period Budget indicates the funded budget for the period based on the annual budget monthly breakdown.

Expenditure is the actual cost of the nursing service during the monthly period, inclusive of permanent vacancies unfilled and unpaid leave periods (e.g. parental leave).

Variance is the difference between the period budget and expenditure.
The final column is the WTE used for each grade during the budget period.

Funded grade mix, is the mix of nurses and HCAs as outlined in the funded establishment.
Period grade mix is the actual mix of nurses and HCAs used in the period to take account of supplemental staffing such as Agency or Nurse Bank. This information is useful to the integration of quality indicators, along with plans for redesign of the ED workforce.

Case Study - ED Nurse Manager

Geraldine is a Divisional Nurse Manager in a busy urban ED. Over the past 12 months Geraldine has constructed a monthly operating budget. In addition to this information Geraldine has also trended her data on the demand for care in her services and noted increases in the ED presentations for the profile of patients attending with minor injuries. Geraldine has also undertaken a capability review within her ED nursing team, and has noted that all HCA's are FETAC educated, with two senior nurses currently undertaking a Masters.

Identifying the need of the service

- Geraldine and her team based upon the demand for care data and a SWOT analysis have identified the necessity to develop the current ANP service from 2 ANP's to 3 ANP's.
- The challenge however, is that on discussion with her Director of Nursing and the Director of Finance, it is apparent that there is no additional funding available to increase the WTE to recruit an ANP, and therefore the development of the ANP must come from within the existing resources and within the existing budget.

Identifying the response of the service

- Geraldine is aware that the two nurses who are currently undertaking Masters are at the 12th point of the Salary Scale.
- This is the basis upon which Geraldine is determining the likelihood of the supply of an ANPc into the service from within the service based on the necessity to remain within WTE.
- Whilst the expertise exists within the service, the funding for the development of an ANP must be sourced.
- Geraldine reviews her workforce staffing establishment, in collaboration with her HR manager, and is made aware of one impending resignation of one of her HCA team, who is currently paid at the 5th point of the salary scale. Geraldine already has a vacancy in her HCA team, which will bring her new vacancy level to 2WTE. Of her remaining 3HCA's all are FETAC educated and highly skilled, along with having a high level of competence in her nursing team which has remained constant over the last number of years with a turnover rate of less than 3%.
- Whilst Geraldine has been using HCA Agency to manage this vacancy it has increased her overall monthly expenditure.
- Geraldine reviews her budget, to calculate the potential to recruit two new HCA Interns into the service in place of the current 2 HCA's both at the 5th point (1 HCA at point five resignation, and 1HCA at point 5 midpoint vacancy). The purpose of the budgetary review is to ascertain the potential expenditure variance, which could provide the additional funding to develop an ANP within the service.

Case Study cont'd- ED Nurse Manager

	Grade	Salary point	Salary	Premium Payment at 20%	PRSI 10.75%	Pension 4%	Total
Year One							
A	**RN**	12th	€42,469	€8,493.80	€5,478.50	€2,038.51	€58,479.81
B	**ANP**	1st	€54,870	€10,974	€7,078.23	€2,633.76	€75,555.99
C	**Variance for Year One**						**-€17,076.18**
D	**2 HCA**	5th	€59,618	€11,923.60	€7,690.72	€2,861.66	€82,093.98
E	**2HCA Intern**	1st	€43,482	€8,696.40	€5,609.17	€2,101.53	€59,889.10
F	**Variance for Year One**						**€22,204.88**
G	**Total Variance**						**€5,128.70**
Year Two							
G	**RN**	12th	€42,469	€8,493.80	€5,478.50	€2,038.51	€58,479.81
H	**ANP**	2nd	€55,952	€11,190.40	€7,217.80	€2,685.96	€77,045.89
I	**Variance for Year Two**						**-€18,566.08**
J	**2HCA**	5th	€59,618	€11,923.60	€7,690.72	€2,861.66	€82,093.98
K	**2HCA Intern**	2nd	€46,040	€9,208	€5,939.16	€2,209.92	€63,397.08
L	**Variance for Year Two**						**€18,696.90**
M	**Total Variance**						**€130.82**

- In year one, Geraldine calculates the development of the RN post to an ANP at an increased expenditure of €17,076.18 (Row C). Based on the recruitment of 2 HCA Interns at the first point versus 2 HCA's at the 5th point, Geraldine has saved €22,204.88 (Row F). Therefore if Geraldine were to proceed with this plan, she would have the funding available within the existing budget, with a surplus of €5,128.70 (Row G) which she is going to use to support the new HCA interns in their orientation and educational development.
- In year two, Geraldine, does not forecast similar savings, due to the incremental increase in both the ANP cost and the HCA Intern Cost (Rows H and K). However, whilst there is a further increase in expenditure from the RN to ANP post (Row I) in year one, there are still the requisite savings from the HCA Interns (Row L). There is a surplus of just €130.82 (Row M) for this year.
- Based on these figures, Geraldine prepares a business case to support the development of an ANP post within the service.

Developing Business Plans

A business plan is a proposal document that is usually prepared in support of an application for funding for a particular clinical practice initiative, an educational project, technological equipment or other innovation (Baker & Baker 2011). The ultimate outcome from a business plan is to persuade others that your vision is achievable and worthy of resource allocation (Eck 2000).

In an era of challenged resources requests for healthcare professionals to write business plans in support of new technologies or developments is becoming commonplace (Cohn & Schwartz 2002). It is likely from a nursing perspective in the ED setting that this could include a proposal for a range of the following:

- Funding to develop new Rapid Assessment and Treatment ANP post based on a review of your operational processes (Section 2)
- Funding to support educational development of the nursing team based on a review of the capability of the team (Section 4)
- Funding to reconfigure posts within the ED based on a review of the current budget, capacity and capability and outcomes of the services (Section 6, 3, 4, 5 and 6)
- Funding for a new piece of equipment to support service efficiency based on a review of organisational characteristics (Section 2) and/or current capacity (Section 3 Observation Analysis)

Regardless of the purpose of your business plan, which may be for a new initiative or to develop the existing services, your business plan should integrate financial planning/analysis, with key objectives and assumptions, operating plan, resources and a measurement plan.

As indicated in the previous section on developing your nursing budget, it is vitally important to liaise with your colleagues on the finance team. Your finance colleagues can provide you with key insights and data to support the costing element of your business plan.

To support you in writing a business plan, Template 1 provides a sample business plan template which you may find useful to structure your business plans. The template outlines key sections to include with a descriptor of the information you should consider for each section. You should however, in the first instance consider if there are templates already in use in your organisation for submitting business plans.

Example C demonstrates how to construct a business plan in support of a new technology.

TIPS FOR DEVELOPING BUSINESS PLANS

• Review HIQA Guidelines for the Budget Impact Analysis of Health Technologies in Ireland (2014). Whilst these guidelines are not designed for developing Business Plans, they contains useful information to support this process.

Work Based Activity

Section 6 - Template 1

This template should be used in conjunction with the guidance from HIQA (2014) for the Budget Impact Analysis of Health Technologies in Ireland.

Business Plan	
Sponsor	
Lead Owner	
Hospital Name (particularly if in a hospital group)	
Department	
Directorate	
Application Date	

1	**Introduction/Background/Case for change**

In this section describe the following:

- Existing service provision
- Detail an overview of the key issues
- Describe how the proposal will address these issues
- Detail who has been involved and who will be affected
- Define the target population
- If the proposal is in support of a new technology, detail and differentiate from its competitors.

2	**Strategic Context/Corporate Plan/Perspective**

In this section consider the following:

- State how the project fits with the needs of the service both locally/nationally; corporately; at unit and directorate level.
- State the perspective/viewpoint from which the project proposal is conducted. E.g. ED or local hospital
- Outline how the project will assist in the achievement of national/local/group targets
- Outline whether the proposal will improve the utilisation of resources and how
- Consider whether your proposal is designed to be read by the key decision makers

3	**Project Scope and Objectives**

In this section include the following:

- State the key objectives as SMART; Specific, Measurable, Achievable, Realistic and Timed
- State the key benefits: measurable benefits; qualitative benefits
- Specify benefits according to; organisational, financial, resource, clinical, equipment or other
- Clearly outline the efficacy, effectiveness and safety; consideration of the outcomes that affect resource utilisation should be included.

4	**Risks and Constraints**

In this section describe the following:

- Detail the risks of “maintaining the status quo” and quantify these risks.
- Include risks associated with the new technology/initiative such as adverse events. Include evidence emanating from Randomised Controlled Trials (RCTs) where available.
- Categorise into: developmental risks; implementation risks; operational risks
- Consider the following risks: staffing; capacity; change of process (e.g. resistance)
- Consider the inclusion of formal risk assessment documentation
- Document the risks if the proposal is not implemented

Template 1 cont'd

5	Options/Alternatives/Choice of Comparators

In this section consider the following:

- Outline the alternatives to the current proposal in detail
- Describe how the alternative may or may not achieve the proposal objectives
- Identify why the current proposal is the preferred option
- Describe how the proposal differs from current "routine care"
- Describe the comparators in sufficient detail to provide for assessment
- Include evidence of efficacy/safety and how it relates

6	Financial/Budget Impact Analysis

In this section consider the inclusion of the following; not all will be applicable to every business plan;

- **Timeframe**; core analysis should estimate the annual financial impact over 5 years
- **Define project demand**: define the following
- Population availing of the new technology*/other
- Population eligible and likely to avail of the new technology/other
- **Costing**: outline the methods used to generate the costs clearly
- Outline the direct costs associated with the new technology or other (e.g. cost of a new drug and staffing to administer the drug)
- Outline the distinction between incremental and total costs (total cost is the cost of the new technology inclusive of its impact on the replacement of care.
- Outline Capital Costs as applicable: these are costs usually incurred as one off, whereby the annual depreciation should be included over the 5 year term.
- Labour costs: this includes salary costs, and should be based on the consolidated salary scales available for public sector employees. Example A demonstrates the calculation of direct pay costs)
- Technology costs: the average costs associated with the new technology
- Cost offsets: with the introduction of a new technology may come a reduction in the resource use and associated costs within the system. A scenario analysis should be included to outline the realisation of savings from other areas; e.g. in staff requirements.

7	Impact Analysis

In this section consider:

- Expected outcomes on: activity; staffing; income; clinical

8	Project Management and Evaluation

Include in this section:

- Expected completion date of the project and key milestones
- Outline the project team/key stakeholders
- Describe project monitoring of progress and reporting
- Outline when, how and by whom the project will be evaluated for achievement of stated objectives

*Technology is described as drugs, diagnostics, indicators and reagents, devices, equipment, and supplies, medical and surgical procedures, support systems and organisational and managerial systems used in prevention, screening diagnosis, treatment and rehabilitation (HIQA 2014)

Section 6 - Example C

Example C below outlines a brief business plan in support of the purchase of Computers On Wheels (COW) for the Emergency Department.

Business Plan	
Sponsor	Director of Nursing
Lead Owner	Assistant Director of Nursing for Emergency Department
Hospital Name (particularly if in a hospital group)	Primrose Lane Hospital
Department	Emergency Department
Directorate	Medical
Application Date	20/20/2020

1	**Introduction/Background/Case for change**

Within the Emergency Department, Triage of presenting patients is a key function performed by the Registered Nurse operating in Triage. Currently the service operates with one nurse allocated to Triage on each shift.

In accordance with the National Emergency Medicine Programme (EMP), all patients' attending the hospital's ED should be Triaged within 15 minutes of registration. Currently the performance of our hospital in compliance with the EMP is impaired due to an inability to perform additional triage assessment as a consequence of lack of available technology upon which to record the Triage score on the electronic ED recording system. Our current compliance level is at 78% with the EMP target set at 100%.

Following an activity analysis of the department coupled with a review of the organisational characteristics of our ED, we have identified that our nursing service has the capacity and the space to perform additional triage during high patient presentation periods, thus reducing the time to triage. The obstacle to achieving this in practice however is a lack of available technology to complete the necessary recording of the triage score and triage time.

This proposal if successful will provide the mechanism for an additional nurse to undertake Triage assessment, and thus reduce the time to triage, along with increasing patient safety through more timely assessment and management of care thereafter.

To date the ED Consultants, Director of Nursing, ED Nursing Team and the CEO have been involved in the review of our failure to meet with the EMP target. Our nursing team based on the above review has identified this proposal as the most effective and efficient way to meet the requirements. The alternatives considered were the redesign of an existing room within the ED to assign an additional triage room, however upon examination this would require significant capital investment along with providing for a "rigid" triage space incapable of a mobile unit to facilitate triage in multiple locations as necessary based on the ED service need at particular times.

The target population will include all new patients registered in the ED.

2	**Strategic Context/Corporate Plan/Perspective**

This proposal fits seamlessly into the overarching corporate plan which seeks to improve the hospital's overall performance for ED targets such as patient experience times, along with the overall corporate plan to improve patient flow processes throughout our hospital.

Equally this proposal meets with the national EMP targets to improve time to triage, patient experience times and patient safety.

With the addition of a second mobile computer upon which to undertake triage, thereby improving the time to triage.

Equally this project will increase the utilisation of current resources through more streamlined triage processes and patient flow within the department.

Example C cont'd

3	Project Scope and Objectives

The key objectives of this project are to:

1. Increase triage capability within the ED, as measured via a second nurse undertaking triage through the purchase of a COW within 6 weeks
2. Improve the time to triage from registration by 20% in the ED within 2 months of implementation of the COW
3. Increase the hospitals' overall performance on the EMP target for triage within 15 minutes of registration from 78% to 88% within 6 months.

The key benefits to this proposal include:

- Clinical work is highly mobile, therefore the use of COW's supports swift access to care decision support and patient recording
- Improved patient experience times which is organizationally beneficial
- Enhance patient safety via more timely assessment upon registration to the ED which ultimately benefit patient's clinical outcomes
- Improve the hospitals performance in patient flow along with compliance with the EMP national target for triage which may support more favorable financial support for similar initiatives with key deliverables to patients and processes

4	Risks and Constraints

The data on the risks associated with the introduction of COW's is quite limited, and indeed does not include Randomised Control Trials . However multiple systematic reviews of the use of handheld devices have reported significant benefits including timely decision making through rapid access to clinical information at the point of care and improved communication (Baumgart 2005; Lu et al 2005). Equally however it notes the risks associated by the integration of multiple forms of technologies, along with key decisions on who will use the device, location and layout of the unit and the nature of the work in choosing the most appropriate device (Andersen et al 2009).

The key risks associated with this proposal include:

- Appropriate device selection to integrate with current electronic systems – the device selection has been reviewed and approved by Information Technology Department for its specifications to integrate with the current ED IT system
- Fit for purpose device (durable, easy to use etc); multiple devices have been trialed by the ED staff for durability, usability, user preference, mobility, and infection prevention and control to ensure fitness for purpose in the ED
- Security: potential for device to be stolen with key patient data: IT have confirmed data encryption along with protected password access therefore eliminating the possibility for data protection issues
- Connectivity issues, as the device is mobile: IT have undertaken a review of the wireless performance in the ED with identified hot spots for connection
- Appropriate location and storage of the device to include charging facilities: the ED has been assessed with dedicated locations for the storage and charging of this device once in operation
- If this proposal is not implemented, the current under-performance in patient experience times coupled with the potential safety risks of reduced registration to triage times will continue to exist

Example C cont'd

5	Options/Alternatives/Choice of Comparators
The alternative option to this proposal is the development of a second triage zone of care within the ED. Whilst this will certainly achieve the objectives, the cost of this alternative significantly outweigh those of the current proposal for obvious reasons.	

6	Financial/Budget Impact Analysis

Based on the ED figures for the previous year; 62,942 new patient registrations were recorded. It is expected therefore that for the forthcoming year, with introduction of this new process (2nd triage assessment using mobile technology COW) on average at least half (31,471 patients) will be triaged using this new process with the total 62,942 eligible to avail of this new technology.

Costs

	Unit Cost	Total Cost (5 year period)
Mobile Device	□2,500 (inclusive of VAT)	□2,500
IT network support for wireless technology	□750	□3,250
Service contract	□0	□3,250
Replacement of pen devices	□30 per pen (expected to replace 5 pens over 5 years)	**□3,400**

The cost for the device is a one off cost at □3,250. However it is also acknowledged the annual cost over the lifetime (5years) of the device will include pen replacement at □30 per annum.

Depreciation costs of the device is calculated at 33.33% per annum as per HIQA (2014)

Initial device cost & value		**□2,500**
Depreciation Year one	□832.5	□1,667.5
Depreciation Year two	□555.27	□1,112.22
Depreciation Year three	□367.03	□745.18
Depreciation Year four	□248.14	□497.03
Depreciation Year five	□165.51	□331.51

There are no labor costs associated with this proposal.

7	Impact Analysis

This project is expected to impact on the following:

- Patient experience times in the ED
- An increase in the compliance with the EMP triage times
- Enhanced patient safety and improved patient outcomes through more timely access to assessment subsequent to initial registration in the ED

Example C cont'd

8	Project Management and Evaluation

- Expected completion date of the project will be 6 months from time of funding approval for purchase of the device
- Project team includes: ADoN ED, CNM3 ED, ICT project lead, Consultant ED, ED data manager, facilities and estates manager and informatics nurse.
- A GANTT chart outlines the key milestones which are: device purchase in month one; device set up and staff training in month one; device use and implementation for triage in month one; review of triage times at months two, three, four, five and six; reporting and review of triage times each month by project team to assess performance of proposal against target objectives.
- Evaluation of the project will include reporting of triage data on time to triage pre and post the introduction of the proposal to assess for degree of variance and improvement. This data will also be used to assess the performance of the service pre and post implementation against the national EMP triage target of 100%. Staff focus group on the success of the project and further changes/improvements will also be included in the formal evaluation report.

Part 3

Education Workshop Programme Design

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3.0 Introduction

It is recognised that in order to make the ED Nursing Workforce Planning Framework a reality end users should be supported in implementing the framework through the design and provision of appropriate education. This section of the document supports overall implementation and sustainability of the framework as it presents an outline design of an education workshop programme which can be used to support users in developing the skills and competencies to use the ED workforce planning toolkit in the clinical setting.

The objective of the education workshop programme as designed is to empower ED nurse managers and teams / other nurse managers with knowledge and skills, confidence and competence to implement the framework and to use the toolkit and information available locally in order to assess and determine the appropriate, effective, efficient and safe use of their existing nursing and support staff resource. The overall purpose of the workshop will be to facilitate a changed and standardised perspective on workforce planning.

3.1 Overview of the programme

At the centre of workforce planning is a focus on the importance of ensuring effective health and social outcomes for patients, clients and service users. Thus, at its core, workforce planning has a strong commitment to the optimal use of healthcare resources to most effectively meet the needs of those who use its services. This education workshop programme outline is designed to enhance the health professional's skills in workforce planning within the emergency setting with specific focus on the implementation of the ED Nursing Workforce Planning Framework toolkit in the practice setting. The philosophy underpinning the programme design recognises the importance and complexity of workforce planning in the emergency healthcare setting due to the many different operational characteristics involved in delivering emergency care. Bringing that complex environment together to deliver an integrated workforce planning methodology and patient-centred service is a demanding and challenging task. Participants who complete this education programme will play an important role in their emergency departments to ensure best practice in their environments from a workforce planning perspective. The workshop approach also provides the opportunity to share practical examples.

3.2 Philosophy, Aims and Competencies

The overall objective of the ED Nursing Workforce Planning education programme is to enhance the standard of workforce planning and analysis in practice across emergency healthcare settings nationally. The education workshop programme aims to prepare participants to acquire the knowledge and skills to provide a workforce planning leadership role in their emergency setting and to contribute improved workforce planning capability through evidenced based practice. This can be achieved through supporting users to confidently and competently implement the ED Nursing Workforce Planning Framework in their local emergency care setting.

This education workshop programme will also support participants in achieving the competencies relating to workforce planning identified in the EMP publication 'Role Profiles for Nursing Staff in Emergency Care Settings in Ireland (HSE 2014a). The ED Nurse Manager and shift leader role have specific behavioural indicators relating to workforce planning in Domain 4 Organisation and Management of Care; Performance Criteria 4.5 i.e.'Ensures that critical human and material resources are allocated in an effective way to ensure patient safety, monitors activity levels and intervenes to align resources to maximise efficiency'.

The workshop programme outline has been designed with the objective of providing a practical approach to empowering users to implement the ED Nursing Workforce Planning Framework in order to assess and determine the appropriate, effective, efficient and safe use of their existing nursing resource. This workshop will provide the opportunity for discussion, learning and engagement in the process to facilitate a changed perspective on workforce planning whereby the focus will centre on the appropriate and alternative ways to utilise the current nursing workforce to deliver quality safe care. The challenges to implementation of the tools in practice will be addressed with practical tips and examples on how these may be overcome in practice.

The following are the workshop programme outcomes:

1. Facilitate the personal and professional development of participants to increase their capacity to fulfil workforce planning roles in Emergency Departments.
2. Develop the ability to challenge assumptions about workforce planning and to question values, beliefs and policies underpinning workforce planning at departmental and national level.
3. Develop participants as reflective practitioners with the skills, confidence and awareness necessary to identify and implement evidence-based workforce planning methodologies.
4. Develop the ability to integrate skills, attitudes and knowledge gained throughout the education programme and to apply these in practice.
5. Develop the ability to apply learning into the healthcare environment as reflected by implementation of the workforce planning toolkit in practice.
6. Support participants in achieving the competencies and performance criteria relating to organisation and management of care as outlined in the role profile for ED Nurse managers and shift leaders.

The overall outcomes from the workshop will be the successful implementation of the ED Nursing Workforce Planning Toolkit in practice.

3.3 Units of Learning

The workshop programme content will be divided into units of learning. Each unit of learning is aligned to the six sections within the ED Nursing Workforce Planning toolkit.

- Demand for Care
- Operational Characteristics
- Workforce Capacity
- Workforce Capability
- Nursing Outcomes
- Financial Planning

A breakdown of content including recommended reading and learning outcomes for each unit is provided later.

Teaching & Learning Strategies

In keeping with the Qualifications Framework in Ireland the curriculum for the ED Workforce Planning education programme should be based on the core principles of flexibility, inter-professionalism, utility, evidence-based teaching and learning.

The principle of flexibility refers to a curriculum that is dynamic and responsive to local needs. Inter-professionalism refers to the bringing together of knowledge to inform healthcare professionals, and using a variety of teaching and learning strategies. The principle of utility refers to the concept that knowledge obtained on a programme should be useful in informing practice. Evidenced based teaching and learning is a principle which reflects the view that all aspects of the programme need to be grounded in evidence.

It is recommended that the education programme will be delivered in workshop format to enhance the practical application of skills and knowledge developed. There should be considerable emphasis on active learning, which provides opportunities to practice techniques with facilitator/provider support such as exploring case studies, discussing and applying tips, testing tools and templates and applying real scenarios and data to support local decisions.

Core Transferable Skills and their Attributes

Course content, teaching/learning methodology and assessment will develop the core transferable skills in the following ways:

- Knowledge will be developed, by learning and applying new skills and understandings to participants' particular emergency department contexts. This will be assessed through the application of knowledge in the workplace, the ability to reflect on the application of this knowledge within learning environments; and the ability to situate this work within the literature.
- Problem-solving skills will be developed, by demonstrating, modelling and critiquing critical issues in workforce planning. Problem solving skills will be assessed through the ability to find solutions to problems identified within case studies and in the context of workforce planning.

- An awareness of local, national and global perspectives on workforce planning methodologies will be developed through the analysis of national and international case-studies and contexts highlighting global perspectives.

Educational Facilities

Face to face teaching is essential for the delivery of this education programme. Providers should have proven track record and expertise in the area of workforce planning. Involvement of senior nurse managers such as ADONs with operational remit and CNMs in ED in delivery of the education is recommended as their involvement will endorse and support the content of the programme and its practical application in the emergency setting

Qualifications

The workshop will be developed to a standard where accreditation with appropriate awarding bodies can be sought.

3.4 Assessment Methods and Criteria

Assessments of learning following the education workshop will involve the ability of participants to apply their learning by demonstrating that they have achieved the specified learning outcomes for the individual units of learning. As students undertaking the education will be working at a senior nurse manager level and will have significant work experience there is a preference for participants to self assess their own level of comprehension and competency development in the area of workforce planning (prior to and following attendance at the education workshop).

Appropriate learning activities will allow for timely and constructive feedback to students.

Participants will demonstrate their achievement of learning outcomes at different stages throughout the programme by a combination of the following:

- Personal development goal setting
- Practical tests and tests of competency in relation to required skills;
- Problem-based portfolio submissions and simulations;
- Case study analysis
- Team-centred analytical exercises;
- In-class presentations.

All of the teaching and learning will build on the considerable experience that participants will bring to this programme. The discursive nature of the workshop, together with the variety of activities and assessment methods built on work-related and realistic situations will enable the cumulative development of competence and confidence. The participants will progress critically from their experience through interpreting, understanding, questioning, revising, reflecting, and refining their learning. Both during and long after the programme is completed, this process will provide an appropriate basis to better understand the complexities and uncertainties of the workplace, particularly in the context of a work environment which is undergoing significant pressure to perform and transform.

3.5 Units of Learning: Descriptors

3.5.1 Core Reading

The following core reading is recommended in advance of the education workshop. The core and unit specific reading will evolve as publications are produced/commissioned. Samples of specific recommended reading associated with each unit of learning are identified in each unit descriptor later.

- HSE (2012b) National Emergency Medicine Programme; A Strategy to Improve Safety, Quality, Access and Value in Emergency Medicine in Ireland.
- Health Services Executive (2013c) Special Delivery Unit Technical Unit Guidance Introducing Demand and Capacity Planning, Special Delivery Unit, Health Service Executive.
- HSE (2013b) the Report and Strategic Plan to Enhance ANP (Emergency) Nursing Services across Emergency Care Networks.
- HSE (2013a) Guidance document on staffing for Local Injury Units (LIUs).
- (HSE 2014a) Role Profiles for Nursing Staff in Emergency Care Settings in Ireland.

3.5.2 Unit 1- Demand for Care

Rationale of module:

Understanding the demand for care is a very good starting point to determining the number of nurses and the composition of the nursing team required to provide care to meet this demand.

Module aim:

The aim of this unit will be to provide participants with the knowledge and understanding of how they can develop their competencies and capabilities in measuring the concept of demand for care.

Learning outcomes:

On successful completion of this module participants will be able to:

1. Demonstrate competency in measuring the number and profile of presentations to the ED.
2. Identify the category of patients for which they will need to match their nursing teams' skills and grade to provide safe care.
3. Understand the pattern of presentations to the ED.
4. Identify week/season-peaks and troughs in patient presentations which will inform decisions on the deployment of nurse staffing.
5. Reflect on the relevance of the literature on demand for care in emergency departments.

Indicative Syllabus:

Pre-class component (blended learning):

- Review & familiarisation with chapter on Demand for Care as described in the ED Workforce Planning Toolkit
- Complete templates – Demand for Care. (Template 1 and Template 2)
- Review of case study (ED Nurse Manager)
- Review of worked example A
- Reading and review of indicated journal articles

In-class component:

- Demand for care process
- Volume and profile of presentations.
- Patterns of presentations
- Review of completed templates

Post-class component:

- Review & reflection
- Application of learning by continuing to assessing Demand for Care in participants ED

Sample of Recommended Readings:

Attree, M., Flinkman, M., Howley, B., Lakanmaa, R.L., Limo-Basto, M., Uhrendeldt, L. (2011) A review of nursing workforce policies in five European countries: Denmark, Finland, Ireland, Portugal and United Kingdom*/England. Journal of Nursing Management. 19:786-802

Buchan, J., Ball, J., O'May, F. (2000) Determining Skill Mix in the Health Workforce: Guidelines for Managers and Health Professionals. World Health Organisation, Geneva.

Department of Health (2012a) Future Health. A Strategic Framework for Reform of the Health Services 2012-2015. Department of Health. Dublin Stationary Office.

Sample of Recommended Websites:

The Heath Service Executive: http://www.hse.ie
The Department of Health: http://health.gov.ie
The National Health Service: http:// www.nhs.uk
NHS Scotland (2010) Nursing and Midwifery Workload Planning Learning Toolkit .NHS Education for Scotland: **http://www.healthscotland.com**
The National Health Service Leadership Qualities: http://www.nhsleadershipqualities

3.5.3 Unit 2: Organisational Characteristics

Rationale of module:

The impact of the organisational environment in releasing time to care into the nursing resource is fundamental in Emergency Department Workforce Planning.

Module aim:

The aim of this module is to provide opportunities for participants to examine operational models of care and how these are used to support effective use of nursing resources.

Learning outcomes:

On successful completion of this module students will be able to:

- Analyse operational models of care in the Emergency Department.
- Review the physical design of the Emergency Department.
- Develop competency on reviewing organisational infrastructure.
- Review nurse staffing decisions relative to organisational layout.
- Reflect on the relevance of the literature on operational characteristics on emergency departments.

Indicative Syllabus:

Pre-class component (blended learning):

- Review & familiarisation with chapter on Organisational Characteristics as described in the ED Workforce Planning Toolkit
- Completion of template 1 (Current ED Infrastructure and Physical Layout)
- Completion of SWOT analysis.
- Review of operational models of care
- Completion of Operational Processes Assessment Tool

In-class component:

- Organisational Characteristics
- Emergency Department layout
- Lean methodology
- Understanding and assessing current operational models
- Maximising nursing resources

Post-class component:

- Review & reflection
- Application of learning by assessing Organisational Characteristics in participants ED on an ongoing basis

Sample of Recommended Readings:

Callander, E, Schofield, D,J. Emergency Department Workforce Models: What the literature can tell us, Emergency Medicine Australasia (2011) 23, 84-94

Dickson, E. W., Anguelov, Z, Bott P, et al (2008) The Sustainable Improvement of Patient Flow in an Emergency Treatment Centre using Lean. International Journal of Six Sigma Competitive Advantage 4: 289-304

Dickson, E. W., Anguelov, Z, Vetterick D. et al. (2009) Use of Lean in the Emergency Department: A Case Series of Four Hospitals. Annals Emergency Medicine **54**: 504-510

Eller, A. (2009) Rapid Assessment and Disposition: Applying Lean in the Emergency Department .Journal of Healthcare Quality: 31:17-22.

Sample of Recommended Websites:

The IQX Hub: www.hseland.ie
The Productive Series: http://theproductiveseries.uk
The National Health Service: http:// www.nhs.uk
NHS Scotland (2010) Nursing and Midwifery Workload Planning Learning Toolkit. NHS Education for Scotland:
The National Health Service Leadership Qualities: www.nhsleadershipqualities

3.5.4 Unit 3: Workforce Capacity

Rationale of module:

Analysis of current capacity within ED Nursing Teams to meet service demand is fundamental to workforce planning methodologies

Module aim:

The aim of this module is to challenge the participant to analyse current roles and rosters within the nursing establishment

Learning outcomes:

On successful completion of this module participants will be able to:

1. Define the staffing establishment in the Emergency Department.
2. Identify variance in the staffing establishments.
3. Demonstrate competency in effective rostering practices for Emergency Departments.
4. Demonstrate competency in activity analysis in an Emergency Department.
5. Analyse data collected in rostering and activity analysis effectively.
6. Conduct a role clarification exercise in an Emergency Department.

Indicative Syllabus:

Pre-class component (blended learning):

- Review & familiarisation with chapter on Workforce Capacity as described in the ED Workforce Planning Toolkit
- Completion of staffing establishment - template 1
- Conduct an activity analysis – template 2
- Check calculations of activity
- Review the case study – using observed activity findings to influence change in inter departmental practices

In-class component (Module co-ordinator & lecturer facilitated):

- Staffing Establishments
- Rostering
- Effective Role Utilisation
- Activity analysis

Post-class component:

- Review & reflection
- Application of learning by assessing Workforce Capicity in participants ED

Sample of Recommended reading

Hurst, K.(2005) Relationships between patient dependency, nursing workload and quality. International Journal of Nursing Studies **42**:75-84.

Royal College of Nursing (2010) Guidance on safe nurse staffing levels. RCN, London.

Spilsbury, K., Meyer, J. (2001) Defining the nursing contribution to patient outcome: lessons from a review of the literature examining nursing outcomes, skill mix and changing roles. Journal of Clinical Nursing. **10**:3–14.

Williams, G.Souter, J.Smith,C. (2010) The Queensland Emergency Nursing Workforce Tool: A prototype for informing and standardising nursing workforce projections. Australasian Emergency Nursing Journal **13,** 89-96

Sample of Recommended Websites:

The Department of Health http://www.doh.ie

The National Health Service: http:// www.nhs.uk

NHS Scotland (2010) Nursing and Midwifery Workload Planning Learning Toolkit .NHS Education for Scotland: www.nhsScotland

The National Health Service Leadership Qualities: www.nhsleadershipqualities

3.5.5 Unit 4: Workforce Capability

Rationale of module:

The importance of staff capability from a nursing workforce perspective is to ensure that the right person with the right skills is in the right place at the right time.

Module aim:

To support ED Nurses develop the skills to assess, monitor and plan their workforce required to deliver high quality, safe and effective nursing care

Learning outcomes:

On successful completion of this module participants will be able to:

1. Assess the current capability of the emergency department nursing staff.
2. Conduct a professional profile of Emergency Department academic profile.
3. Conduct a professional profile of Emergency Department discipline profile.
4. Conduct a professional profile of Emergency Department ED Specific Skill set profile.
5. Identify opportunities to design the workforce for strategic workforce planning purposes.

Indicative Syllabus:

Pre-class component (blended learning):

- Review & familiarisation with Module descriptor & assignment
- Completion of template 1 – Capability Assessment
- Completion of template 2 - ED Profile
- Completion of template 3 -Orientation and Development Programme
- Review of case studies
- Read & review of indicated journal articles

In-class component (Module co-ordinator & lecturer facilitated):

- Capability assessment
- Professional Profiling
- Competency analysis
- Orientation programmes
- Development programmes

Post-class component:

- Review & reflection
- Application of learning by assessing Workforce Capability in participants ED

Sample of Recommended reading

Aiken, L.H., Clarke, S.P., Cheung, R.B., Sloane, Silber, J. (2003) Educational Levels of Hospital Nurses and Surgical Patient Mortality. Journal of the American Medical Association. 290(12):1617-1623**.**

National Council for the Professional Development of Nursing and Midwifery (2010) Evaluation of Clinical Nurse and Midwife Specialist and Advanced Nurse and Midwife Practitioner Roles in Ireland (SCAPE). Dublin National Council for the Professional Development of Nursing and Midwifery.

Health Information and Quality Authority (2012) The National Standards for Safer Better Healthcare.

Sample of Recommended Websites:

Health Information and Quality Authority

http://hiqa.ie
The Department of Health: http://www.doh.ie
The National Health Service: http:// www.nhs.uk
NHS Scotland (2010) Nursing and Midwifery Workload Planning Learning Toolkit .NHS Education for Scotland: http://www.nhsScotland
The National Health Service Leadership Qualities: www.nhsleadershipqualities

3.5.6 Unit 5: Nursing Outcomes

Rationale of module:

A primary goal for the nursing workforce is to deliver a desired outcome for patients - safe quality care.

Module aim:

To introduce outcome indicators that are measurable and specific, so that flags or alerts about the quality or safety of care in the ED can be highlighted and predicted.

Learning outcomes:

On successful completion of this module students will be able to:

1. Review current indicators from a local and national perspective in Emergency Departments.
2. Conduct a stakeholder analysis relative to the nursing indicator.
3. Identify core considerations to defining a nursing indicator.
4. Develop a system for continuous reporting of agreed indicators.
5. Review the current literature on nursing outcomes.

Indicative Syllabus:

Pre-class component (blended learning):

- Review & familiarisation with Module descriptor.
- Review the current indicators in your Emergency Department
- Completion of Template 1 .Nursing Outcomes

In-class component (Module co-ordinator & lecturer facilitated):

- Defining indicators
- Writing Nurse Sensitive Indicators
- Quality standards
- Processes to support indicators

Post-class component:

- Review & reflection
- Application of learning by assessing Nursing Outcomes in participants ED

Sample of Recommended reading

Doran, D.M. (2011) Nursing Outcomes: The State of the Science. 2nd Edition. Jones & Bartlett LLC.

Doran, D.M.,Harrison, M.B., Laschinger, H.S., Hirdes, J.P., Rukholm, E., Sidani, S., McGillis Hall, L., Tourangeau, A.E. (2006). Nursing- Sensitive Outcomes Data Collection in Acute Care and Long-Term-Care Settings. Nursing Research. **55**(2S): S75-S81.

Health Information and Quality Authority (2012a) The National Standards for Safer Better Healthcare.

Luthans, F. (2003) Positive Organisational behaviour. Implications for Leadership and HR development and motivation in R.M.Steers L,W Porter, and GA Bigleys eds Motivation and Leadership at work p178 -195. New York: Mc Graw – Hill

Sample of Recommended Websites:

Health Information and Quality Authority http://hiqa.ie
The Health Service Executive: http://www.hse.ie
The Department of Health: http://doh.ie
The National Health Service: http:// www.nhs.uk
NHS Scotland (2010) Nursing and Midwifery Workload Planning Learning Toolkit .NHS Education for Scotland: http://nhsScotland.
The National Health Service Leadership Qualities: www.nhsleadershipqualities

3.5.7 Unit 6: Financial Planning

Rationale of module:

The challenges of modern healthcare settings demand that financial planning is an integral part of workforce planning.

Module aim:

To provide emergency nurses with information on nursing decisions in relation to the workforce and financial analysis of this resource

Learning outcomes:

On successful completion of this module students will be able to:

1. Evaluate nursing team budgetary development and analysis.
2. Define the terminology and approaches to budgets in the Irish Context.
3. Involve the relevant stakeholders for budgeting analysis for an ED department.
4. Demonstrate competency in developing business plans for an ED department.
5. Review the current literature on budgeting and workforce planning.

Indicative Syllabus:

Pre-class component (blended learning):

- Review & familiarisation with Module descriptor & assignment
- Completion of Template 1 Business Plan
- Review worked example for purchasing IT equipment in an ED
- Read & review indicated books

In-class component (Module co-ordinator & lecturer facilitated):

- Terminology
- Stakeholder involvement
- Gathering relevant information
- Budget construction and management

Post-class component (blended learning):

- Review & reflection
- Application of learning by being involved in financial planning processes in participants ED

Recommended reading:

Liebler, J G,. MC Connell, R. Management Principles for Healthcare Professionals. 6th Edition. Jones and Bartlett Learning

Marshall Sorenson, E. Transformational Leadership in Nursing: From Expert Clinician to Influential. Springer Publishing Company 2011.

Recommended Websites:

The Health Service Executive: http://www.hse.ie
The Department of Health: http://doh.ie
The National Health Service: http:// www.nhs.uk
NHS Scotland (2010) Nursing and Midwifery Workload Planning Learning Toolkit .NHS Education for Scotland: http://nhsScotland

The National Health Service Leadership Qualities: www.nhsleadershipqualities

3.6 Programme Evaluation

There will be an evaluation of the programme from design stage through delivery to completion. This will include an estimation of the impact of learning to both the organisations involved and the individual participants.

Curriculum and participant progress will be monitored and any concerns identified will be addressed. Course evaluation will address the context of the educational process including the organisation of the programme and its resources as well as the learning environment and also specific components of the curriculum.

The evaluation will include before and after measures. This enables greater understanding of the outcomes, personal experience, efficiencies and cost effectiveness. Importantly, it is used to determine if the learning objectives have been achieved. There are a number of frameworks available that can assist in guiding the evaluation process. Two of the most commonly used approaches are the Kirkpatrick Model and the CIPP (Context, Input, Process, and Product) Training Evaluation Model. Both these approaches evaluate outcomes at different levels of impact. The Kirkpatrick Model is a four stage hierarchical model that starts with the evaluation of the reaction of participants to the training, moving onto an evaluation of knowledge and behaviours and finishing with organisational impact. The CIPP model focuses on context (planning), input (structuring), process (implementing) and product (recycling).

Based on these evaluation models, students will complete a course evaluation questionnaire at predetermined periods (e.g. before participating on the education programme, at the end of the workshop and a period of time after the workshop to evaluate how the learning might have translated into practice). In addition, the facilitator/provider will review the course during its implementation.

Using a semi-structured questionnaire the following aspects of the education workshop will be evaluated:

- Satisfaction with the content of courses.
- The development of participants' knowledge and skills.
- Participants' perception of the degree to which they can apply the knowledge and skills acquired to meeting the strategic and operational requirements of their professional roles.

Feedback will inform amendments required in relation to design and content for future programmes.

Appendix 1

Project Methodology

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1.0 INTRODUCTION

This section (or project report) describes the ED Workforce Planning Framework project from inception. The background and context to the project and pertinent information regarding both the current national and more specifically the ED context is outlined as well as the governance for the project. A 5 stage approach was employed to meet the objectives and achieve the key outcomes of the project. This staged approach ensured a robust methodology to support development of the framework and guided the project from initiation to completion. Each stage is described in order to give insight into the depth and breadth of this initiative as well as the wide collaboration with stakeholders throughout.

2.0 BACKGROUND

One of the Recommendations of the National Emergency Medicine Programme (EMP) Strategy (HSE 2012b) is that 'Standardised Staffing Models will be developed to ensure equitable and appropriate staffing for all EDs and Emergency Care Networks (ECNs)' http://www.hse.ie/eng/about/clinicalprogrammes/emp/empreport2012.pdf. Therefore, in order to realise this recommendation, the Office of the Nursing and Midwifery Services Director (ONMSD), at the request of the EMP, commissioned the Royal College of Surgeons in Ireland, Institute of Leadership, (RCSI IL) following a tender process, to design and develop a Workforce Planning Framework to assist ED nurse managers and other relevant staff in determining the most effective and appropriate utilisation of their existing nursing (and support staff) resource in the Emergency setting.

The primary drivers for the development of this framework arose from the necessity to;

1. Implement a standardised staffing model as recommended by the EMP Strategy;
2. Support and guide senior ED nurse managers and their team to assess and plan their nursing workforce;
3. Respond to the current focus of the health reform agenda which sets out the necessity for greater utilisation of skills of all healthcare workers in response to and in conjunction with the current reforms across the health system.
4. Be compliant with HIQA (2012a) standards. Standards for safer, better healthcare: Standard 6-Workforce.

Additionally, senior ED nurse managers and staff, through the Emergency Nursing Interest Group (ENIG) which is a subgroup of EMP, have expressed concern around the lack of appropriate workforce planning models/tools available to support them in making reliable evidence based workforce decisions and have sought advice and support from EMP around making sound workforce decisions. They rightly identify the requirement for reliable, robust and scientific workforce decision making tools specific to the emergency setting particularly in the current environment of increasing service demand and appropriate focus on quality safe care. It is important that ED nurse managers feel confident and can stand over the workforce decisions they make. This was the final catalyst for the initiation of this project.

3.0 PROJECT CONTEXT

3.1 The National Context

At the time of this project, the moratorium on recruitment in the public service and the current HSE employment control framework influenced the focus of the framework on appropriate utilisation of the current resource. The vision for the framework is to support more efficient use of resources whilst also maintaining a focus on the requirement to provide cost effective and efficient services leading to quality care and patient satisfaction in EDs. The framework is also cognisant of the national work being undertaken by the Special Delivery Unit (HSE) across EDs nationally as well the National Taskforce on Staffing and Skill Mix for Nursing initiated in Q4 2014 by the Department of Health, Chief Nursing Office which is focusing on medical and surgical wards in Phase 1.

Additionally this project recognises the significant and ever increasing focus on the nursing resource to provide safe high quality patient care, and the process of determining their capacity and capability to achieve this goal. Equally, this framework is critical

in the context of the national standards for Safer Better Healthcare (HIQA 2012a) whereby Standard 6 - workforce outlines the necessity to determine workforce requirements to meet sustainable high quality safe patient care and support.

3.2 The Emergency Care Context

There are 40 settings where emergency care is delivered in the Republic of Ireland. This comprises of ED's that see and treat adults only, EDs that see and treat adults and children and ED's that see and treat children only. Some departments are open 24/7 and others have limited hours of services (e.g. 12/7) and can be categorised as Local Injury Units (LIUs). The National Emergency Medicine Programme has developed guidance for staffing in LIUs entitled *'Guidance document on staffing for Local Injury Units (LIUs)'* (HSE 2013a) therefore the focus for this project is the twenty nine 24/7 EDs. This does not preclude the application of the framework to the LIU setting to further support workforce decisions.

Other complementing pieces of work developed by EMP to date include *'The Report and Strategic Plan to Enhance ANP (Emergency) Nursing Services across Emergency Care Networks'* (HSE 2013b) which focuses on developing the capacity of Advanced Nurse Practitioners (ANPs) in Emergency settings to support improvements in quality and timely access to care for patients with specific conditions attending emergency departments and services throughout the country.

The more recently published *'Role Profiles for Nursing Staff in Emergency Care Settings in Ireland'* (HSE 2014a) is another key resource developed by EMP which will support the workforce planning agenda. This document presents a suite of role profiles for various grades of nursing staff working within the Emergency care setting which are complementary to the HSE nationally agreed job descriptions for various nursing staff grades. Each role profile outlines a role specific competency framework intended to guide various grades of emergency nurses towards achieving predetermined practice competencies to meet patients' needs in the challenging clinical environment of the ED. These complementary documents, if used in conjunction with the framework, will further enhance the workforce planning process.

In addition, the framework is compatible with and complementary to the Dartmouth Institute Microsystem Academy (TDIMA), Clinical Microsystems quality improvement methodology being adopted by the EMP for programme implementation – Clinical Microsystems.

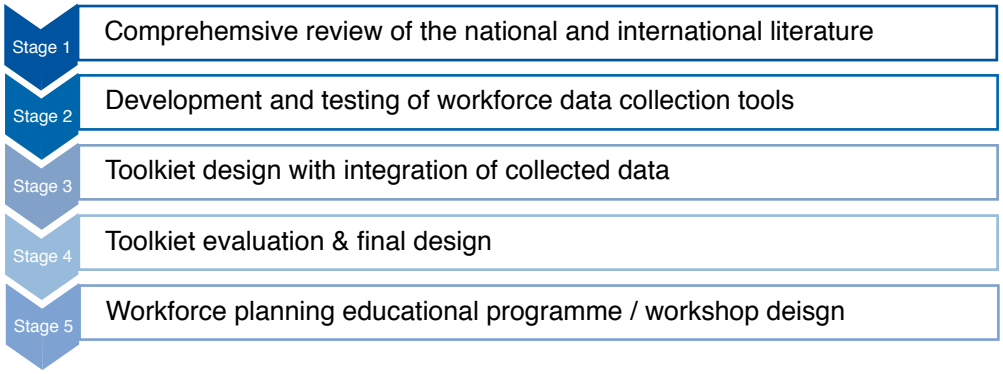
4.0 PROJECT OBJECTIVES

Based on the background and context outlined, the objectives and key outcomes from this ED Workforce Planning Framework project are to;

- **Develop a framework to serve as a guide to support senior ED nurse managers and their team to assess and plan their nursing (and support staff) workforce to meet the needs of their individual services;**
- **Support the standardisation of workforce planning approaches across EDs nationally;**
- **Develop the competence and confidence of senior ED nurse managers and other relevant staff in making informed workforce decisions;**
- **Provide the evidence base to support informed workforce decisions by senior ED nurse managers in conjunction with local management;**

As with the development of any framework the critical initial phase included research, particularly a review of the current pertinent literature, followed by stakeholder input and testing in the actual real world setting. Therefore, in meeting the objectives and achieving the key outcomes of this project, the following 5 stage approach was employed for this project (Figure 1.0). This staged approach ensured a robust methodology to support development of the framework and guided the project from initiation to completion.

Figure 1.0: Overview of staged approach for framework development



5.0 PROJECT GOVERNANCE

The development of the framework was governed by a Project Advisory Group representing all key stakeholders. This group contributed professional advice and clinical expertise throughout the project.

Below is an excerpt from the project Advisory Group terms of reference. Membership is outlined in the Acknowledgements section of the framework document.

Role of the ED Workforce Planning Framework Project Advisory Group

The Role of the ED Workforce Planning Framework Project Advisory Group is to oversee the project which is to develop a Workforce Planning Framework to assist Emergency Department (ED) nurse managers and team members in determining the most effective and appropriate utilisation of the existing nursing (and support staff) resource in Emergency settings. The Advisory Group will provide professional advice and clinical expertise to the project team throughout the duration of the project. Specifically the Advisory group will:-

- Monitor the progress of the project (reviewing reports at regular intervals and evaluate achievement of milestones) and ensure it is meeting the objectives of the key deliverables of the project
- Sense check progress of the project to ensure the framework design and content meets the needs of the EMP and senior ED / Hospital staff
- Consider and identify constraints and risks that may influence project plan and deliverables
- Agree the most appropriate framework models and resources for inclusion within the toolkit
- Support service engagement as required
- Ensure outputs of the project remain in line with EMP, ONMSD and HSE Objectives
- Ensure Evaluation framework is achievable & implementation approach is sustainable and realistic

A fundamental objective of this project was the assurance of the development of a co-designed workforce planning framework. This assurance was delivered through genuine engagement and collaboration by the Advisory Group members throughout the project to continuously inform, enlighten, critique and evaluate the project management and outputs.

The development of the framework entailed collaboration with members of the project advisory group who contributed actively throughout the development of the framework. Their input provided key insights and ensured that all progress was sense checked during development. The advisory group also facilitated robust consultation with their stakeholder representative groups. Engagement with the stakeholders through this group was a critical element of this project, particularly given the current political climate and economic challenges.

The contribution of the senior ED manager members of the advisory group as well as the Emergency Nursing Interest Group (sub group of EMP) was

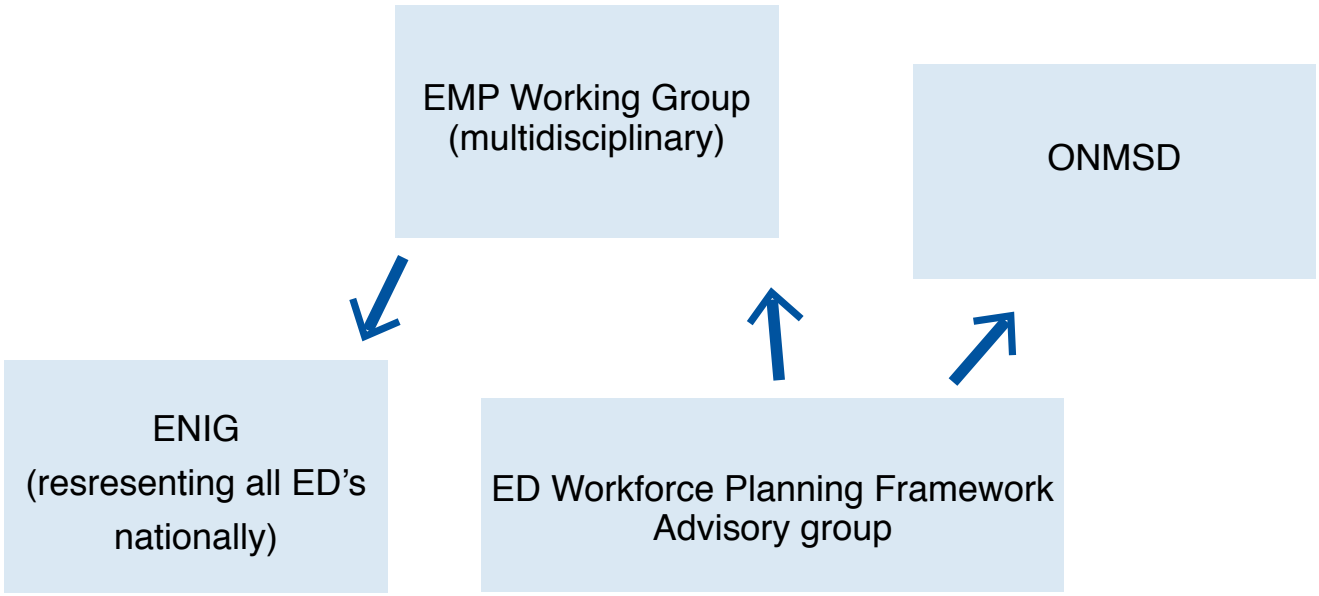
particularly useful for the toolkit co-design phase as it helped ensure that the toolkit is appropriate, useful, relevant and applicable in practice as well as ensuring the framework is future proofed. In addition the Advisory Group facilitated testing of the toolkit component of the framework during its development to ensure it is fit for purpose in the clinical setting.

The Advisory Group also supported service engagement through; advising on ED sites for testing; supporting tool testing and actual data collection; supporting tool evaluation at clinical sites; and supporting service engagement in clinical sites

The project team also provided the opportunity for senior emergency nurses and members of the Advisory Group to participate on the observation visits with the result that internal capacity has been now developed to support future observational work.

The reporting structure for the project advisory group is depicted below:

Figure 2.0: Reporting structure for the project advisory group

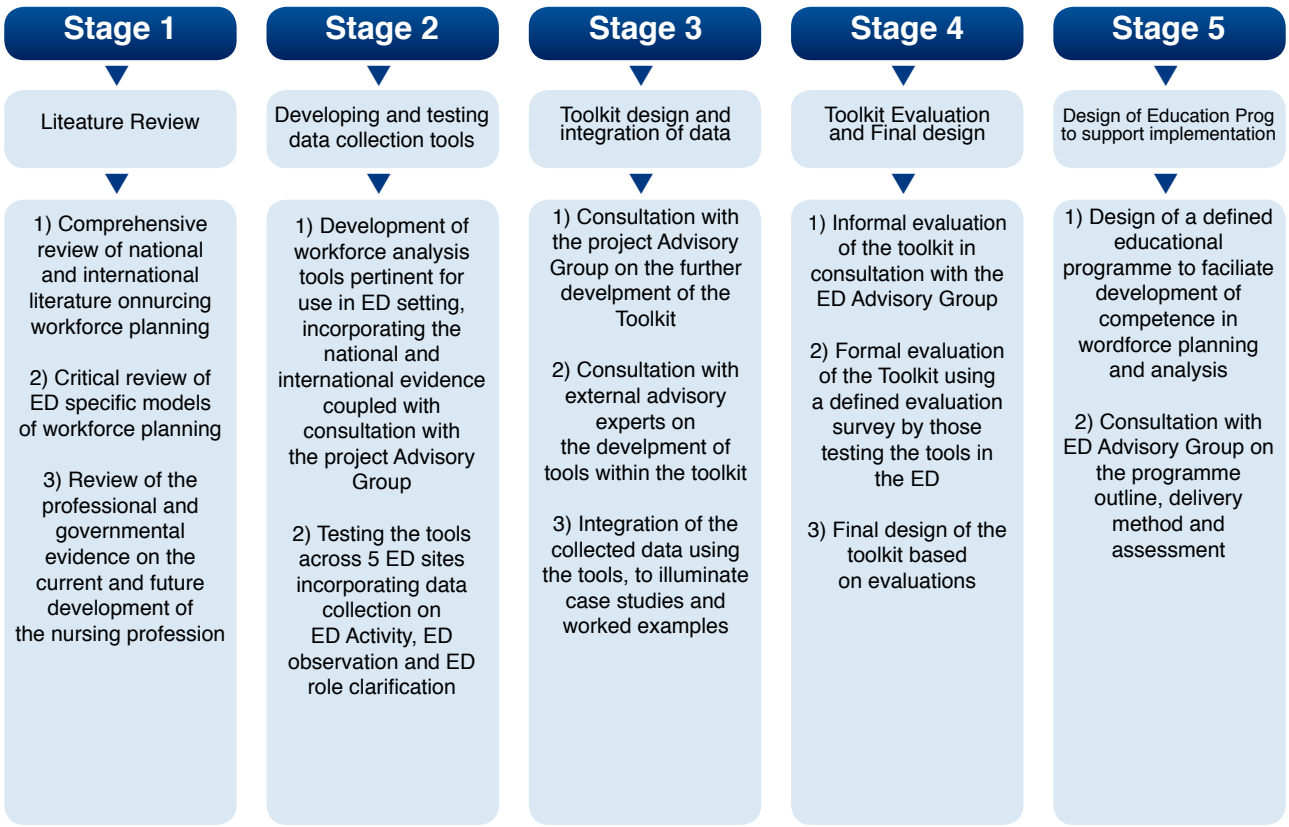


In achieving collaboration and co-design the project Advisory Group met a total of seven times over the course of the project.

6.0 FIVE STAGE APPROACH TO FRAMEWORK DEVELOPMENT

The approach taken to the development of this ED workforce planning framework was one of a successive staged approach. The project was implemented in five stages, with each stage a critical component to the achievement of the specific and overall project objectives and key outcomes. Figure 3 below outlines these five key stages with a summary of the main activities undertaken in each stage.

Figure 3.0: Five staged approach to framework development



Within each stage a number of activities were undertaken to meet the project objectives in the pursuit of the development of a final framework fit for use in practice. Some stages overlapped and others happened concurrently in a complementary fashion. Further detail around each of the five stages is outlined further here.

6.1 Stage 1: Literature review

1) Comprehensive review of national and international literature on nursing workforce planning
2) Critical review of ED specific models of workforce planning
3) Review of the professional and governmental evidence on the current and future development of the nursing profession

The comprehensive literature review was conducted at the outset of this project and continued throughout the project as new relevant evidence and research emerged. The findings are presented in **Part 1** of the Framework and serve as a resource for the ED manager and other users of this framework in support of evidence based workforce decisions.

The focus of the literature review is an examination of the National, European and Global evidence on nursing workforce planning with particular emphasis on the specific evidence related to emergency department nursing workforce planning models and approaches. In reviewing the models and approaches explicit attention was paid to the capacity of these models to deliver on service reconfiguration and design within existing resources as opposed to requiring increased resources. The capability of the workforce planning models to address, analyse and support direct re-engineering of current staffing and skill mix, service delivery models and lean processes

(as examples) have been critically reviewed to ascertain the "fitness" of the models to an Emergency Department setting in an Irish context. Equally these approaches in the review were considered within the context of the Health Service Executive (HSE) and the National Emergency Medicine Programme (EMP) current focus, on driving greater efficiency, whilst maintaining service quality and meeting outcomes such as access and safety.

Thus the findings from the literature review are divided into the following subsections:

a) Contextual factors within the health system in Ireland influencing workforce planning which outlines the historical and current developments in the profession of nursing; the model of health service delivery in Ireland and the planned changes affecting the configuration of the workforce into the future along with the national policy agenda for workforce planning within the health services.

b) Outline of workforce planning methods and approaches

which critically discusses the historic and current methods and various approaches to nursing workforce planning the factors influencing effective nursing workforce planning. This section also critically reviews the evidence of those factors such as skill mix, outcomes and nurse staffing levels which impact and influence effective nursing workforce planning.

c) Workforce planning in the Emergency Care setting.
This section focuses on the evidence of workforce planning methods and models, specific to the ED setting.

The objective of the literature review was firstly to broadly examine and assess the available literature pertaining to workforce planning models and approaches and secondly to examine this literature in the context of Emergency Departments from a National, European and Global perspective.

The key conclusions from this literature review include the necessity to:

- Monitor ongoing changes in the profession of nursing coupled with changes in the health system model of delivery which may impact on current and future planning of the nursing (and support staff) workforce
- Use a systematic method inclusive of the various factors affecting the workforce capacity and capability to delivery safe care to determine the appropriate nursing (and support staff) workforce
- Understand the necessity to engage in ongoing monitoring and reassessment of the factors affecting thecapability of the workforce to deliver safe care
- Integrate professional judgment in addition to systematic assessments to determine the nursing workforce
- Ensure workforce planning methods measure and take cognisance of patient outcomes
- Factor in financial considerations to ensure value for money in the management of the workforce which should also be included in the decisions to support effective and efficient workforce planning (given the extent of reform)

The information generated in this review was used to inform the subsequent development of the ED Workforce Planning Toolkit (Part 2) and Education Programme (Part 3).

6.2: Stage 2: Developing and testing workforce data collection tools

1) Development of workforce analysis tools pertinent for use in the ED setting, incorporating the national and international evidence coupled with consultation with the project Advisory Group
2) Testing the tools across 5 ED sites incorporating data collection on: ED Activity, ED Observation and ED role clarification

The design and testing of the tools for inclusion within the Toolkit was the next stage of the project. The primary purpose of the Toolkit was to assist and guide ED nurse managers in planning their nursing workforce, therefore it was necessary to test the tools and collect data to reliably inform the Toolkit to achieve this purpose. A primary objective of the Toolkit development was testing of the tools, along with collection of core data to inform the further development of the tools in addition to inclusion of the data to illustrate the case studies and worked examples.

The development of these workforce data collection tools pertinent for use in the ED setting occurred in tandem with the review of the literature which

facilitated the incorporation of national and international evidence. This was coupled with consultation with the project Advisory Group as a core objective of the overall framework and particularly the toolkit development was stakeholder involvement in the design process, to ensure that the final product would be one which was relevant, applicable and usable by nurse managers/leaders immersed in clinical practice across emergency healthcare settings nationally

The first step to delivering on this objective was the selection of sites to ensure representativeness of ED settings coupled with testing of the tools' transferability across multiple ED settings. The decision for the inclusion of ED sites was made by consensus by the project Advisory Group using the following criteria:

- ED sites representative of both Urban and Rural settings
- ED sites representative of Adult Only ED settings
- ED sites representative of Paediatric Only ED settings
- ED sites representative of both Adult and Paediatric (mixed) ED settings
- ED sites representative of care processes such as RAT (Rapid Assessment and Treatment), ANP with and without Clinical Decision Unit.
- ED site with Audio-visual separation in mixed ED's
- ED site with good example of role expansion and utilisation of support roles
- Consequently the following 5 ED sites were chosen:

Figure 4.0: Participating ED sites

1	Our Lady of Lourdes Hospital Drogheda, Co. Louth	Mixed ED
2	University Hospital, Galway	Mixed ED
3	Sligo General Hospital, Sligo	Mixed ED
4	Our Lady's Children's Hospital, Crumlin, Dublin	Children's Only ED
5	St. James' Hospital, Dublin	Adult only

Site access was obtained formally for tool testing and data collection activities from the Chief Executive Officer/ General Manager and Director of Nursing in each site. Site visits were preceded with robust information about the planned visit and work of the team.

Data Collection Tools

Subsequent to the literature review, three tools were developed to capture data succinctly to inform the further development of the tools within the individual sections of the toolkit. All three tools were circulated and used in each site at the time of data collection. The three tools were Survey Tool, Observation Tool and Role Clarification Tool.

1. **ED Activity Analysis Tool** to capture data on:

a. Demand for care – patient attendance figures, patterns of presentations, patient profile data;

b. Organisational characteristics – ED layout and design, access to services and multidisciplinary roles, current care processes in operation;

c. Workforce capacity – current staffing establishment figures, role review and development activities;

d. Workforce capability – current education, skills and competencies within the ED Nursing team, current orientation and development programmes and current retention and succession planning strategies;

e. Nursing outcomes – current or recommended nursing outcomes measures;

f. Financial planning – current knowledge and integration of financial planning and involvement.

This survey tool (Appendix 2) was circulated to all 5 ED site Senior ED Nurse Managers/link staff identified by Directors of Nursing, by the project team, at the point of data collection site visit. Over the course of the data collection at each site, the ED Nurse Managers were encouraged to give feedback on the survey instrument used, to inform

the final development of these data collection tools within the toolkit. The survey tool was constructed in 5 sections focusing on the 5 areas of Patients, Processes, Professional Profile, Leadership and Quality to complement the Clinical Microsystems methodology. Following the testing phase this ED Activity tool was further modified for inclusion in the relevant sub-sections within the final toolkit.

2. ED Observation analysis tool to capture data on individual roles and the utilisation of these roles across the ED setting related to the amount of time spent on;

a. Direct patient care activities

b. Indirect patient care activities

c. Allied care activities

d. Non-patient related activities

This tool was designed based on the activity analysis tool designed by Dr. Keith Hurst (UK), with his permission to modify the tool to an ED setting. The project Advisory Group provided key insight and expertise on the modification of the activity analysis tool for use in the ED setting. The key components of the tools including explanatory notes are included in Appendix 3.

In undertaking the test/data collection phase of the observation tool, a series of planned observations were undertaken in each of the 5 sites as outlined below. It should be noted that as part of the overall development of the tool, an iterative process of development based on site to site test and review was employed which led to the final version of the tool in the toolkit.

Figure 5.0: ED Observation/ data collection schedule

ED Site	Total number of observations	Spectrum of observations	Timeframe
ED Site One	4 Observation shifts of 12 hours duration	2 daytime Shifts (One Weekday and one Weekend) 2 night duty shifts (One Weekday and one Weekend)	Aug-Sept 2013
ED Site Two	4 Observation shifts of 12 hours duration	2 daytime Shifts (One Weekday and one Weekend) 2 night duty shifts (One Weekday and one Weekend)	Sept-Oct 2013
ED Site Three	4 Observation shifts of 12 hours duration	2 daytime Shifts (One Weekday and one Weekend) 2 night duty shifts (One Weekday and one Weekend)	Nov-Dec 2013
ED Site Four	4 Observation shifts of 12 hours duration	2 daytime Shifts (One Weekday and one Weekend) 2 night duty shifts (One Weekday and one Weekend)	Jan-Feb 2014
ED Site Five	4 Observation shifts of 12 hours duration	2 daytime Shifts (One Weekday and one Weekend) 2 night duty shifts (One Weekday and one Weekend)	Feb-Mar 2014

The project team undertook the observations in the ED sites. In addition, five members of the project Advisory Group also engaged in observational data collection using the tool, and completed a total of 6 observation shifts. The inclusion of members of the Project Advisory Group achieved the following objectives:

- Co-design of the tools within the toolkit, as these members as auditors using the tool in practice provided greater opportunity for additional lived experience feedback which further informed the development of the tool;
- Capability development as members of the Advisory Group are current senior nurse managers in ED sites, therefore this provided the opportunity for training and direct experience of observation analysis;
- Credibility of the final tool, as ED nurse managers had not only used but endorsed the tool for use in practice as a relevant applicable and useful tool.

3. The Role Clarification Exercise Tool was the final tool used for the purposes of data collection. This tool sought to elicit the opinions of members of the ED nursing team on the current utilisation of the roles within the ED and sought responses to the following questions:

a What roles/functions/tasks do you currently do that only you can do?

b What roles/functions/tasks do you currently do that another member of the team can/ should do?

c. Where is there scope for further development of roles within your ED nursing team? What is required to support this further development?

A two pronged approach to the collection of this data to inform the case studies within the Toolkit included:

- Arranged focus group of Nurses, Nurse Mangers and Healthcare Assistants in the ED during the site visit
- Informal opportunistic 1-1 interview of Nurses, Nurse Managers and Healthcare Assistants during the observation analysis

In total 2 focus groups were held in two sites. The first group had a total of 7 members in the group comprised of (2CNMs, 4RN's and 1HCA). The second focus group comprised of 5 members (1CNM3, 1CNM2, 1HCA, 1Clinical Facilitator, and 1 Community Liaison Nurse). Informal 1-1 ED team interviews were undertaken in the remaining 3 sites, which comprised of an average of 10 staff member interviews per site, with mainly RNs and HCA's, yielding significant qualitative data, which was used to illuminate the Toolkit case studies and worked examples.

Once the data collection tools (ED Activity Analysis tool, ED Observation Analysis tool, Role Clarification Exercise tool) were developed they were tested across 5 selected representative EDs nationally. This was done on an incremental basis and the data collection tools were adjusted and modified and further enhanced as the sites visits progressed.

6.3: Stage 3: Toolkit design and integration of data

1) Consultation with the Project Advisory Group on further development of the Toolkit
2) Consultation with external advisory experts on the development of tools within the toolkit
3) Integration of the collected data using tools to illuminate case studies and worked examples

The Workforce Planning Toolkit would form the central component of the final framework therefore a robust approach to design and development was fundamental. The key objectives of the toolkit design included;

- Specific applicability for use in the emergency setting
- A concise toolkit informed by research evidence coupled with co-design input by stakeholders
- Inclusive of a suite of robust tools to support effective decision making, yet presented succinctly and in a user friendly format for use by multiple clinical nurse managers across the ED setting
- Relevant, realistic, applicable and flexible toolkit to support current and future workforce planning
- Inclusion of tools that fit with the perspective of the EMP, ONMSD and HSE objectives
- Agreement on the most appropriate models and resources within the toolkit

- Testing of key tools within the toolkit across a selection of EDs
- Integration of data collected in the tool testing phase to inform case studies, scenarios and worked examples as genuine examples

A triangulated approach was used to further develop the toolkit following the initial testing phase and this was informed by multiple sources.

Sources of evidence

- Comprehensive literature review and review of existing sources of workforce data collection methods across the system
- Consultation and active engagement with the Project Advisory Group and stakeholders
- Site visits to test the key tools in 5 epresentative EDs coupled with collection of data to inform the case studies/ worked examples in the final toolkit
- National and international consultation on the tools

This consultation and evidence informed further amendments and integration of collected data to develop more robust tools. Data and evidence also supported the development of case studies and worked examples to further enhance the tools.

Triangulating information to inform toolkit development

As presented in the previous section, a comprehensive review of the literature was undertaken to inform the development of the toolkit, particularly in relation to the development of the ED nursing workforce planning **model** and its six individually focused sections. The construction of the six toolkit sections was also informed by the existing data collection methods and tools within the system. The subsequent tables outline the integration of the literature and collected data in the construction of each individual Toolkit Section of the Framework.

Figure 6.0: Triangulation of information to inform toolkit development

Section One	
Toolkit Section	**Demand for Care**
Focused Activities	Assessing volume and profile of patients (e.g. MTS)
	Assessing patterns of presentations
Contextual Evidence	Measuring patient numbers and patient category was identified as a necessary element in the review of the approaches to workforce planning. Whilst dependency measurement was more commonly identified, the Manchester Triage System (MTS) has been used as a comparable measure in the ED setting, acknowledging that the MTS is not a dependency tool but a patient prioritisation tool. Patterns of presentations were identified in the ED workforce model literature as a potential element to forecast patterns of attendances to support effective planning such as roster patterns. Additionally the HSE (Business Information Unit) currently capture information on ED patient attendance data which was included in the design of this section of the toolkit
Section Two	
Toolkit Section	**Operational Characteristics**
Focused Activities	Examining organisational characteristics
	Examining the current and potential operational care processes
Contextual Evidence	Organisational characteristics are identified in the literature in relation to Lean/Productive environments to facilitate efficient processes. Care processes refers to the implementation of care initiatives such as Rapid Assessment and Treatment (RAT) as an example, which are outlined in the EMP Report (2012) to support effective and efficient care processes within the ED. Examining the current organsiation and existing care processes supports the identification of efficiencies and new processes to develop existing services.
Section Three	
Toolkit Section	**Workforce Capacity**
Focused Activities	Determining staffing establishment
	Examining roster processes
	Assessing role utilisation
	Exploring the potential for role development
Contextual Evidence	The potential link between nurse staffing level and patient outcome identified in the literature supports the necessity to examine the ongoing staffing establishment as a mechanism to monitor staffing level and indeed the use of supplementary staffing. Equally, understanding the establishment is necessary to designing an effective roster. The literature ascertained the potential benefits of approaches that assessed the effectiveness of the utilisation of roles, such as timed-task-activity / activity analysis. Thus, assessing the current utilisation of roles in the nursing workforce through activity analysis and role

Section Four	
Toolkit Section	**Workforce Capability**
Focused Activities	Assessing workforce capability: profiling (academic, mandatory education, discipline specific education, specific ED skill set, composite ED profile) and orientation and development programmes.
	Capability management and improvement (roster integration, service development planning and recruitment planning)
Contextual Evidence	This section was designed based on the necessity for nurse leaders to identify the current capacity (i.e. skill set) within their nursing team, so as to build effective rosters, but equally to focus development programmes to support and enhance the team profile further in delivering positive outcomes. The literature identified the potential link between educational and skill level with improved patient outcomes which supports this section of the toolkit. Similarly the literature identified the potential benefits of a positive working environment, whereby staff are supported by nurse leaders. A key component to achieving a positive environment is effective succession and retention planning, to ensure the maintenance of high quality staff, which is the second component included in this section of the toolkit.
Section Five	
Toolkit Section	**Nursing Outcomes**
Focused Activities	Quality indicator measurement
Contextual Evidence	The literature outlined the necessity to measure and monitor the impact that the nursing workforce has on patient outcomes/quality of care. Key Performance Indicators (KPIs) are a mechanism to measure and monitor outcomes of quality, which are supported by national guides for the development of same across the health system. There are two examples included in the toolkit.
Section Six	
Toolkit Section	Financial Planning
Focused Activities	Budgeting & Business Planning
Contextual Evidence	Within the literature reviewed in the context of national health policy, the necessity for cost effective utilisation of resources was revealed

National and International Consultation

To strengthen the development of the tools used in the final Toolkit, national and international expertise was engaged.

Dr. Keith Hurst, who has undertaken a significant body of work on nursing workforce planning in both the UK and Ireland, and key author of the observation analysis tool, was consulted. Dr. Hurst kindly gave permission for the modification of the observation analysis tool to fit with the ED setting as advised by the Project Advisory Group, along with reviewing the modified tool and its application and analysis.

Ms. Michelle O'Neill, a Senior Health Economist with the Health Information and Quality Authority (HIQA), kindly reviewed and advised on the business case development section of the toolkit. Ms O'Neill advised on this section of the Toolkit from the context of the current guidelines by HIQA in relation to Health Technologies Assessment and the potential for inclusion of elements of this guidance in the business plan tool.

The development and testing of the tools for use within the toolkit, was a fundamental component of the overarching framework for this project. A primary objective of the toolkit development was genuine collaboration and **co-design** of the toolkit to ensure it was applicable, relevant and transferrable across ED settings. Equally, for the toolkit to deliver on its promise to support and guide ED Nurse Managers across multiple ED settings, it required the inclusion of genuine illustrative examples from clinical practice, achieved during the data collection phase, which delivered on the integration of authentic data from clinical practice into the final toolkit.

Integration of the Data Collected

Three core data collection methods were used to collect relevant evidence to support the design, test and integration of the data to inform the final toolkit presented in Section 2 of the framework to capture data on:

a. Demand for care: patient attendance figures, patterns of presentations, patient profile data;

b. Organisational characteristics: ED layout and design, access to services and multidisciplinary roles, current care processes in operation;

c. **Workforce capacity**: current staffing establishment figures, role review and development activities;

d. **Workforce capability**: current education, skills and competencies within the ED Nursing team, current orientation and development programmes and current retention and succession planning strategies;

e. **Nursing outcomes:** current or recommended nursing outcomes measures;

f. **Financial planning**: current knowledge and integration of financial planning and involvement.

The integration of this collected data was fundamental to the overall project outcome, as it ensured the final toolkit design was relevant, applicable and contained authentic data from clinical practice to inform the case studies and worked examples included in the final toolkit. It should however be noted that the data analysis and specific findings of the data collection phase in not reported in the framework, as it was agreed at the outset by the Project Advisory Group, and the individual site access permissions, to maintain the data analysis confidential and for anonymous illustrative purposes in the final toolkit.

Integration of ED Activity analysis data

Based upon the collected data and feedback from the five observed clinical sites, the original ED Activity Analysis Tool was modified and segmented into individual sections within the toolkit as outlined in the table below (Figure 7.0). Additionally, the data collected on the original survey was used to illustrate the worked examples and case studies throughout the toolkit as outlined below in the table also.

Figure 7.0: Integration of ED activity analysis data into workforce planning toolkit

Survey Section	Relevant Toolkit Section	Illustrative Example in the Toolkit
Your patients	Demand for Care	Case study reflecting the integration of data on patient profile attendances to engage additional services.
		Work based activity template to capture ongoing data on ED presentations and patient profiles
		Case study illustrating the potential for effective roster patterns and staff engagement on same, to reflect particular patterns of presentations to the ED such as seasonal patterns.
		Worked example of an alternative roster pattern based on ED presentation patterns
		Inclusion example of a dedicated Template to capture particular patterns of presentations.
Process/ Infrastructure/ operational models	Organisational Characteristics and Operational Processes	Two Templates with more clearly defined criteria to support measurement and analysis to drive recognition of need/area for change and to harness opportunities for change
		Template 1 focuses on the current infrastructure and layout and prompts the undertaking of a SWOT analysis
		Template 2 is an Operational Process Assessment tool which prompts the user to consider previous tools on patient demand whilst considering the current access to services by ED staff with further prompts on where challenges and opportunities exist for development.
	Financial Planning	The core questions on the processes section of the survey were further developed and scoped out into a separate section on financial planning in its own right, based on feedback from the project advisory group and informal 1-1 interviews during the ED site visits as will be discussed in the later sections.
Professionals Profile & Leadership	Capacity	A separate detailed Template to capture data on staffing establishments was modified from the existing survey.
		A worked example complete with stuffing data has been included to illustrate how to use the template in practice
		The role review and development survey questions were incorporated into the role development exercise, illuminated by the focus group/ 1-1 interviews.
	Capability	A more detailed Template to assess capability was developed, which categorised capability into: Academic Profile; Mandatory Education Profile, Discipline Specific Skills and Specific ED Skills Set.
		A second Template was included to guide the assessment of the ED Composite Profile measureing expertise in: Triage, Minor Injuries, Majors and Resuscitation areas. A nurse leaders in: Leadership, Human Resources, Communication and Quality, Safety and Risk Management. Measurement is determined via Benner's Model, which was presented as a good practice example from the ED Site Visits.
		Orientation and development programmes Template was modified as a separate Template.
		3 Individual case studies were included from best practice examples. Case study 1 provided detail on the use of the Composite Team Profile Template to build an effective roster. Case study 2 identified the potential for development of the new roles within the ED based on the knowledge of the current ED staff profile. Case study 3 included a worked example of staff profile data used to plan the recruitment strategy for the ED.
Quality and Safety	Nursing Outcomes	Based on the evidence collected from the surveys and in collaboration with the Project Advisory Group there was an identified need to provide guidance and support on KPI development to support measurement.
		A template to guide the development and identification of KPI's for use in the ED setting was developed.
		two worked examples of KPI's were included: first KPI focused on Process and the second KPI focused on Structure.

The integration of the survey data as can be seen from the above table, provided for a more robust, integrative and authentic toolkit to support and guide nurse leaders in the ED setting. The development of the tools within the toolkit was however also enhanced by the completion of observation analysis and the role clarification exercises which are discussed in the following sections.

Integration of Observational Analysis data

The collection of observation analysis data (using the observation analysis tool Appendix 3) was the largest piece of work within the overall project, as it required the collection of 240 hours of observation data across the 5 ED sites, and across the spectrum of the day/week to include weekday, weekend, days and nights. This presented the opportunity to collect large amounts of data not only on the observation of role utilisation across ED team roles, but indeed the broader observation of the operation of ED's first hand. Incorporating the collaboration of members of the Project Advisory Group resulted in greater analysis of the tool by those in clinical practice in the ED setting which considerably enhanced the tools in this toolkit. The integration of this data into the toolkit is outlined in the Table 11.0 below.

Figure 8.0: Integration of ED observation data into workforce planning toolkit

Observation Tool	Relevant Toolkit Section	Illustrative Examples in the Toolkit
	Capacity	The design of the actual observation tool itself was modified to provide for a more user friendly layout with swifter access to the individual codes for observations (Located in the Toolkit Appendix 3)
		the titles of the categories in eaxh major section of the observation tool were renamed to provide for a more user friendly tool: this involved changing the terms of; Direct Care, Indiret Care, Allied Care and Non- Patient Activities to the preferred; Face to Face care, Near to Bed Care, Connected Care Activities and Staff Activities.
		Based on user feedback and direct observation the toolkit codes were expanded to include additional codes to map activities specific to the ED setting.
		the toolkit provides worked examples of actual data analysis along with a worked example on how to calculate and analyse the collected data.
		There is an additional Template to support saey data collection and analysis of data using simple methods.
		There are two case studies illustrated with worked examples of collected data. Case study 1 presents the analysis of the data which is then used to inform a change in practice to support greater role utilisation. case study 2 presents the analysis of the data which is then used inform a further change in practice to support the introduction of template handover and patient escort by support roles.

Integration of the role clarification exercise

Completing the focus groups along with opportunistic 1-1 interviews with members of the ED nursing team provided the opening to explore at firsthand the opinions and insights of ED team members on the potential developmental opportunities for new/ expanded roles. As individuals or as a collective, the team members were provided with an opportunity to share their vision for change in regard to the current and potential utilisation of roles within the ED nursing team. This exercise provided considerable insights for the project overall to inform the development of the case studies from real examples and opinions of the members of the ED team. The integration of this data into the toolkit is outlined in Table 12.0 below.

Figure 9.0: Integration of role clarification data into workforce planning toolkit

Role clarification exercise	Relevant Toolkit Section	Illustrative Examples in the Toolkit
	Capacity	Through the focus group discussions and 1-1 interviews, the role clarification exercise template was broadened to include additional segments to facilitare a more detailed template complete with prompts for the necessary response of the service.
		A worked example is included taken from the interviews, whereby the development of the role of the HCA to undertake ECG recording is outlined, including the necessary developmental plan to implement same into practice.

Clearly evident from this section is the overwhelming value in the data collection and tool testing phase which reliably and constructively informed the development of the tools within the toolkit. The data collected provided authentic evidence to illustrate the practical application of the tools into practice.

Equally the data collection and testing phase facilitated the integration of further feedback on the tools by members of the Project Advisory Group, whom have significant ED experience. In using the tools such as the observation tool, the group members were in an ideal position to validate the relevance, applicability and usefulness of the tool in practice by practitioners. This was invaluable to the development of the tools in the toolkit and the achievement of authentic co-design. Similarly it has provided for the increased credibility of the tools for use in practice by ED nurse leaders, which will further support the utilisation of the tools across the health system in ED settings.

6.4 Stage 4: Toolkit evaluation and final design

1) Informal evaluation of the toolkit in consultation with the ED Advisory Group
2) Formal evaluation of the Toolkit using a defined evaluation survey by those testing the tools in the ED
3) Final design of the toolkit based on evaluations

In stage 4 the final draft of the toolkit was ready for testing on the ground to establish its usability, relevance and applicability in practice. A sample of sites elected to test the toolkit and provide feedback via a formal evaluation (Appendix 4). This testing period was carried out over a six week period. The findings informed final changes and amendments required to ensure the final toolkit is fit for purpose. These final modifications were agreed through the advisor group and were incorporated prior to formal stakeholder consultation process.

6.5 Stage 5: Design of Education Programme to support implementation

1) Design of a defined educational programme to facilitate development of competence in workforce planning and analysis
2) Consultation with the ED Advisory Group on the programme outline, delivery method and assessment

It is recognised that to make this framework a reality end users should be supported in implementing the framework through the design and provision of appropriate education. To support the framework implementation, an education programme outline was designed with the objective of facilitating

the development of competence by users of the Framework and Toolkit in workforce planning and analysis. The education programme design includes delivery methodology and suggested assessment format.

This workshop programme outline which is presented in Part 3 of the framework has been designed with the objective of providing a practical approach to empowering ED nurse managers and other nurse managers with knowledge and skills, confidence and competence to implement the ED Workforce Planning Framework and to use the toolkit and information/data locally in order to assess and determine the appropriate, effective, efficient and safe use of their existing nursing resource.

Philosophies, Aims and Competencies

The overall aim of the workforce planning education is to enhance the standard of workforce planning for emergency nurses and other relevant staff to assist them in confidently and competently implement the ED Workforce planning framework in their local emergency care setting. This will also support participants achieve the competencies relating to workforce planning in the ED Nurse Manager role profile document. The education aims to prepare participants to acquire the knowledge and skills to provide a workforce planning role in their emergency setting and to contribute to the improved workforce planning capability through evidenced based practice.

The following are the Workforce Planning Education programme outcome competencies:

1. Facilitate the personal and professional development of participants to increase their capacity to fulfill workforce planning roles in the emergency healthcare setting;
2. Develop the ability to challenge assumptions and to question values, beliefs and policies underpinning change and healthcare management, at individual and organisational levels;
3. Develop the ability to integrate skills, attitudes and knowledge gained throughout the workforce planning workshop and to apply these in practice;
4. Develop the ability to apply learning into the healthcare environment;
5. Develop workforce competencies, skills, knowledge and attitudes necessary to lead and to manage change effectively;

This education programme will provide the opportunity for discussion, learning and engagement in the process to facilitate a changed perspective on workforce planning whereby the focus will centre on the appropriate and alternative ways to utilise the current nursing workforce to deliver quality safe care. The challenges to implementation of the tools in practice will be addressed with practical tips and examples on how these may be overcome. The outcomes from the education will be the implementation of the tools in practice with a proposal for attendees to develop a linked in approach through the Emergency Medicine Programme and Emergency Nurse Interest Group (ENIG) whereby progress can be shared across the networks with equal sharing of data for future benchmarking purposes should the Emergency Medicine Programme wish to pursue this option.

The education will be developed to a standard where accreditation with appropriate awarding bodies can be sought.

7.0 CONCLUSION

This chapter demonstrates the robust and thorough methodology applied throughout the development of the ED Workforce Planning Framework as well as giving a flavour of the collaborative approach employed to ensure that the final product would be usable in practice. It is envisaged that this methodology will service as a template resource that can be shared for future projects of a similar nature across the National Clinical Programmes and HSE.

Appendix 2

Survey Data Collection Tool

ED Workforce Planning Framework Project

Participating Site Data Collection Tool

Section One Your Patients

Understanding service users is important to gaining an insight into the current and future demands on your services. This will help to identify trends and patterns upon which to engineer your workforce and service processes to meet changing demands.
(If any of the below data is not currently collected please state this in the section rather than leave the section blank)

1.1	What is the average volume of daily presentations your ED (i.e Patient Number)?	
1.2	What are the yearly numbers presenting with a Manchester Triage Category for 2012?	
	Category 1	
	Category 2	
	Category 3	
	Category 4	
	Category 5	
1.3	What was the number of new presentations to your ED for the year 2012	
1.4	What was the number of scheduled return presentations to your ED for the year 2012?	
1.5	What was the number of unscheduled return presentations to your ED for the year 2012?	
1.6	What was the number of new paediatric presentations to your ED for the year 2012? (As applicable)	
1.7	What was the number of scheduled return paediatric presentations to your ED for the year 2012? (As applicable)	
1.8	What was the number of unscheduled return paediatric presentations to your ED for the year 2012? (As applicable)	
1.9	What was the number of ambulance attendances to your ED for the year 2012?	
1.10	What was the number of older patient presentations, aged 65yrs to 80yrs, to your ED for the year 2012?	
1.11	What was the number of frail older patient presentations, aged 80+yrs, to your ED for the year 2012?	
1.12	What was the number of patients in 2012, requiring transfer from your ED to another facility/ED for specialist services or other, who required a member of the ED team to escort?	
1.13	What was the number of patients in 2012, requiring transfer from your ED to another facility/ED for mental health services, who required a member of the ED team to escort?	
1.14	What was the number of attendances to your Clinical Decision Unit for 2012? (As applicable)	

		Yes	**No**
1.15	Is there a particular pattern (i.e. particular days/nights) whereby the presentation rate is higher? If so which day(s)/night(s) of the week is this likely to be? _____ / _____ / _____		
1.16	Is there a particular pattern (i.e. seasonal months) whereby the presentation rate is higher? If so define which months have higher presentations?		
1.17	Are activity peaks and troughs of patient presentations, analysed on a continuous basis to inform appropriate staffing resources? (E.g. higher presentation trends noted on a Monday and Thursday, is there additional staffing allocated to these days)		
1.18	List the Top Ten common presenting complaints to your ED on an annual basis?		

Section Two Processes/Infrastructural/Operational Models of Care

Defining how your services are structured and organised as a model of ED care is important to understanding where current and future opportunities lie to reorganization/restructuring of services to meet service demand and also international developments in best practice.
(If any of the below data is not currently collected or unknown please state this in the section rather than leave the section blank)

Infrastructure

2.1	How many seats are available in your waiting rooms for patients awaiting to be triaged (as applicable)?	
2.2	How many triage rooms are available?	
2.3	How many resuscitation bays are available?	
	Are there dedicated resuscitation bays for children?(if applicable) **Yes** □ **No** □ **If Yes how many?**	
2.4	How many Major cubicles are available?	
2.5	How many Minor cubicles are available?	
2.6	How many other patient spaces are available?	
	What is the total number of single rooms in your Department?	
2.7	How many relatives rooms are available?	
2.8	How many dedicated rooms for viewing deceased patients are available?	
2.9	How many dedicated rooms for Mental Health assessment and treatment are available?	
2.10	How many dedicated teaching/training rooms are available in your ED?	

		Yes	**No**
2.11	If your ED is designed to care for children, is there audio-visual separation of children/adolescents in the ED? (Please state NA if you are adult only ED)		
2.12	Is refurbishment of your department currently underway or being planned?		
2.13	If yes, were/are the ED multidisciplinary team and service users involved in the planning and design of the refurbishments?		

Operational Models of Care

		Yes	**No**
2.14	**Do your ED services have the following in operation**		
	Rapid Assessment & Treatment (RAT) – Nurse Led **If yes define hours of operation:**		
	Rapid Assessment & Treatment (RAT) – Doctor Led **If yes define hours of operation:**		
	Mental Health Treatment Service/Psyche Liaison Service		
	Does your Hospital have a Medical Assessment Unit (MAU)/Acute Medical Unit (AMU)/Acute Medical Admissions Unit (AMAU)		
2.15	Does your ED integrate with primary care through a GP liaison Nurse, Community Intervention Team or other?		
2.16	Does your ED have a staff member (liaison)//team/process dedicated to management of care pathway for older persons? Provide description if Yes:		
2.17	Does your ED have a staff member (liaison)//team/process to manage self harm in your ED? Provide description if Yes:		

2.18		**What level of access does your ED have to the following diagnostic services** ***Please indicate which level applies to your services*** *(please tick the most appropriate box)*						
		Location			**Access**			
		In the ED	**Proximal to the ED**	**At a distance from the ED**	**8hrs/day**	**14hrs/ day**	**24hrs/day**	**Other/ Specify**
X-ray								
CT								
MRI								
Cardiac Catheterisation								
Ultrasound								
Laboratory Services								
	If there is a variance in the above services at the weekends please outline the variance:							

Processes

		Yes	**No**
2.19	Is the cost of running your ED calculated to inform the processes within the department? (e.g. the cost per day (staffing, overheads, average tests investigations performed and associated costs, supplies and stock costs).		
	If **Yes** are these costs known to all staff members?		
2.20	Does your ED have clearly defined criteria for selection and ordering of Investigations appropriate for certain presenting conditions? (e.g. the appropriate ordering of blood tests)		
2.21	Have dedicated condition specific care pathways been operationalised in your ED? If **Yes**, list those that have been operationalised or are due to be implemented in the next 6 months:		
2.22	Is there a formalised patient monitoring system (based on dependency/acuity) used in the department to categorise patients? If yes please outline what system is used:		
2.23	Is there direct access to out patient clinics from the ED? If **Yes** state which clinics are readily accessible:		
2.24	Is there direct referral access from the ED to certain CNS/ANP services in the hospital? If **Yes** state which CNS/ANP led services:		
2.25	Is there a clearly defined process for accessing Healthcare Records during “out of hours” service times?		
2.26	Is there a clearly defined process for accessing Healthcare Professionals during “out of hours” service times?		
2.27	Does your ED have access to an electronic chute for swift transfer of items between units?		

Section Three Professionals Profile

Examining and understanding ED staff numbers, roles, grades and skills within the ED team is critical to determining the scope and potential for development of the team in meeting the evolving needs of patients.

ED Team Profile – Nursing & Nursing Support

***Vacant WTE** is defined as those posts which are agreed within the establishment but are currently vacant. Temp Vacancy is defined as those which are temporary (eg unfilled maternity leave), Perm Vacancy is defined as those which remain unfilled (e.g. post holder resigned and post remains unfilled/no recruitment into the post)*

3.1 Nursing	**WTE**	**Headcount**	**Shift Patterns** (e.g. 12 hr shifts Mon-Sun, day and night; 8 hr shifts Mon to Fri, daytime only; etc)	**Vacant WTE** (Include below the WTE figure for vacant posts in each category)	
				Temp	**Perm**
Assistant Director of Nursing/Divisional Nurse Manager					
Please provide the list of clinical areas managed by this role in addition to the ED as applicable:					
CNM3					
Please provide the list of clinical areas managed by this role in addition to the ED as applicable:					
CNM2					
CNM1					
RN (Staff Nurse) (RGN)					
RCN					
RGN & RCN					
*CNS					
Registered ANP					
ANP Candidate					
Clinical Education Facilitator					
Education co-ordinator					
GP Liaison Nurse					
Health Care Assistant / Nursing assistant role					
**Other					

3.2	*Please provide details on the CNS/s area of specialism E.g Specialists in Chest pain or other.
3.3	** Please provide details of the "other" category including title and brief role description

3.4	**Additional nursing/nursing support hours required in the last 12 months (Jan-Dec 2012)**				
	Total number of hours required	Number of hours filled by Overtime	Number of hours filled by Agency	Number of hours filled by Nurse Bank	Number of hours unfilled
Registered Nurses					
Health Care Assistants					

3.5	Outline the common reasons for the requirement of additional nursing/nursing support hours

		Actual %	**Estimated %**	**Unknown %**
3.6	What percentage of the above hours were filled by an appropriately skilled/experienced ED Nurse			

		Yes	**No**
3.7	Are nursing and healthcare assistant rosters/shift patterns regularly reviewed to align with ED activity levels?		
3.8	What are the primary drivers to review these rosters?		
3.9	Can you outline examples of roster changes in your department?		

3.10 Please provide the numbers (Headcount) of staff in each grade who possess the following education and skills	CNM	RN	ANP	ANPc	CNS	HCA
Certificate/ENB in Emergency Nursing						
Foundation Programme in Emergency Nursing						
Nursing Degree						
Management Degree						
PG Diploma/HDip in Management /Leadership						
PG Diploma/HDip in Emergency Nursing						
PG Diploma/HDip in other specialist course						
Masters Qualification in Nursing/Management						
FETAC Level 5 (QQI) educated						
Currently undertaking an academic course of study						
Minimal lifting and handling certified current						
Fire training certified current						
Hand hygiene certified current						
CPR certified current						
ALS neonatal certified current						
ALS Paediatric Programme certified current						
ALS Trauma Programmes certified current						
MIMS/HMIMS certified current						
EMBS (Burns) certified current						
Registered Nurse Prescriber (including those currently undertaking)						
X-ray prescriber (Registered or currently undertaking)						
Attended Venepuncture & Cannulation Training						
Practicing Venepuncture						
Practicing Cannulation						
Casting & splinting competent						
Practicing casting & splinting						
Competent to perform ECG						
Competent to interpret ECG						
Non Invasive Ventilation (NIV) competent						
Practicing NIV						
Male catheterisation competent						
Practicing male catheterisation						
Suturing competent						
Practicing suturing						
Wound closure competent						
Practicing wound closure						
Competent to use ICT systems within the department						
Engaged in Policy/ Protocol/ Procedure/Guideline development						
Engaged in quality improvement project in last 12 months						
Delivery of presentation/education session in last 12 months						

3.11 Nursing Skill Mix	Senior	Junior
What percentage of nurses in your ED do you deem Senior and Junior		
Senior nurses in this context are nurses (RN/ Staff nurses excluding CNM roles) whom are more than 3 years postgraduate/deemed senior by their CNM for skills such as ability to complete multiple components of emergency care such as Triage.		

ED Team Profile – Medicine, Medical Social Work, Therapies and Support Roles

(Medicine includes Consultant, Registrar, BST/SHO, NCHD; Medical Social Work; Therapies includes: Physio, Occupational Therapy, Speech & Language Therapy, Dietitian, Radiology, Pharmacy, Play Therapy; Support Roles include: Clerical, Portering, Security, Household/cleaning, Catering/Domestic)

		Yes	No
3.12	Do you (as the senior ED nurse manager) formally gather, monitor and critically review the numbers, grades and shift patterns of the ED Medical team on an on-going basis to inform Nurse and Nursing Support staffing needs in the ED?		
	If Yes: Is this data formally reviewed by key members of the Multidisciplinary ED team to inform current/future requirements/needs		
	How frequently is this data collected/reviewed (Weekly, Monthly; Quarterly; Yearly; other)		
3.13	Do you formally gather, monitor and critically review the numbers, grades and shift patterns/number of hours accessible to ED staff by Medical Social Work and Therapies on an on-going basis to inform staffing needs in the ED?		
	If Yes: Is this data formally reviewed by key members of the Multidisciplinary ED team to inform current/future requirements/needs		
	How frequently is this data collected/reviewed (Weekly, Monthly; Quarterly; Yearly; other)		

Role Review/Development

3.14	Are roles and or tasks within the department reviewed to identify the following:	**Yes**	**No**
	a)The primary person responsible for the role/task		
	b)The range of staff members/grades within the department who perform the role/task		
	c)The appropriateness of those staff members/grades performing the role/task		
	d)Other roles/team members who could perform this role/task either currently or into the future(for example role expansion/extension)		
		Formally	**Informally**
	If **YES** is this undertaken Formally or Informally? Who undertakes this?		
	If YES can you provide examples whereby roles/tasks have been reassigned/shared to facilitate role extension/expansion/development: (Please provide the grade and outline how the role has extended/expanded/developed)		
3.15	How frequently (whether formally or informally) is this exercise undertaken within your department?		
	Monthly ☐ **Quarterly** ☐ **Yearly** ☐ **Other (specify)**		
3.16	What are the key drivers for examining roles/tasks within your department?		

Section Four Leadership

Examining leadership within the Emergency Department is critical to optimising leadership potential across the Department, given the importance of this to the delivery of excellence and improved patient outcomes.

Professional Development

		Formally	Informally	None
4.1	How are orientation/induction programmes for new staff managed in the ED? If formal, define the length of the programme			
4.2	How is clinical supervision coordinated and planned as part of education opportunities in the department?			

		Yes	No
4.3	Is there a formal process for planning, managing and monitoring personal professional development **(PPD/CPD)** of staff in your department (also known as staff development programme)?		
	If **Yes:** How often do PPD/CPD meetings/staff development reviews take place with staff?		
4.4	How are PPD/ staff development activities identified:	**Yes**	**No**
	Based on gaps in knowledge/skills for service delivery/patient care		
	Based on staff preference for knowledge and skill development		
	Based on current education programmes being undertaken by staff		
4.5	Are staff facilitated to attend educational/clinical supervision opportunities?		
4.6	Are there flexible educational models to meet the challenges of staff release for education (e.g. blended learning; self directed learning)?		
4.7	Is there a clinical leadership programme in operation in your department? *(A clinical leadership progamme is one whereby Nursing staff are facilitated to develop the skills of clinical leadership through acting up as clinical leader as part of a formal process of clinical supervision and facilitation to foster shared leadership)*	**Yes**	**No**
4.8	Is there a formal process for staff performance review in the ED?		
4.9	Is there a structured process specifically within the ED to continuously review and develop clinical Policies /Procedures /Protocols and Guidelines (**PPPG's**) to support practice?	**Yes**	**No**
4.10	Is staff involvement in PPPG development facilitated within the ED?		
4.11	How are PPPG's disseminated/communicated to staff in the ED?		

Operational Management

		Yes	No
4.12	Have ED managers undertaken other ED site visits for comparison and development opportunities in the last 3 years?		

4.13	Is there a formal process for staff to provide feedback on the experience of working in the department?	**Yes**	**No**
	How regularly is this information gathered/collated?		
	Is there a structured process to take action and communicate these to all staff in the department?	**Yes**	**No**

4.14	On leaving employment in the department is there a formal process for staff feedback/interview to include reason for departure (e.g. exit interview)?	**Yes**	**No**
4.15	Does the ED attract highly skilled/qualified staff in recruitment processes?		
4.16	Are alternative roles/grades explored when recruitment opportunities arise?		
4.17	Is there a demand from staff internally within the organisation to relocate to the ED?		
4.18	Is there a formal process in place to monitor staff absence/sick leave by ED managers?		
	If Yes is this data used to identify trends in short term sick leave absence as an indicator of staff burnout?		

Section Five Quality and Safety

In order to ensure a safe and quality Emergency Department, monitoring allows for opportunities to explore, identify and develop potential improvement opportunities, facilitating continuous quality and safety improvements.

This section seeks to identify quality and safety processes **excluding** those Key Performance Indicators and outcome targets as outlined through the Emergency Medicine Programme.

5.1	**What measures do you currently use in your ED to measure nursing outcomes/metrics/quality/safety?** *These may include for example: Audits of nursing documentation; audit of pressure ulcers, falls and medication errors as examples.*

Include the following

Title/focus of the measure	**Frequency of data collection** (e.g. daily;weekly; monthly; quarterly etc)	**Number of measurements/ sampling size** (e.g. 10% of ED admissions)	**Staff member collecting the data**	**Target outcome** (e.g. 100%; 75% etc)	**Is there a formal process in place to record and report on follow up actions based upon results**	
					Yes	**No**

5.2	**List Nursing quality or safety measures which are not currently collected in your department but are those which could/should be measured in your ED?**

Appendix 3

Participating Site Observation Analysis Data Collection Tool

July 2013

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Appendix 1 Activity Matrix

APPENDIX 3 OBSERVATION TOOL

1.0 Introduction

As part of the Emergency Department Workforce Planning Framework Project, observations of practice in the selected Emergency Departments will be used to inform the development of the Emergency Department Toolkit.

1.1 Purpose

The purpose of the observations of practice is to identify those activities undertaken by nursing and healthcare assistant roles within the Emergency Departments, to inform the development of the toolkit on the determination of appropriate role utilisation. The intention is that this data will provide key insights into the current mix of skills and grades to support and highlight greater utilisation of these roles within the Emergency Department setting.

1.2 Process

The tool has been developed, firstly from a review of the literature pertaining to workload measurement tools, activity analysis tools and activity mapping tools, and refined in consultation with the Emergency ED Workforce Planning Framework Project Advisory Group on the appropriate elements within the tool to inform accurate observation in an Irish context.

The tool is designed to map four key areas of activities related to:

- Direct patient care activities
- Indirect patient care activities
- Allied care activities
- Non patient activities

During each observation analysis, the activities of all nursing and nursing assistant and support roles/grades on duty will be mapped at 10 minute intervals to determine the scope of activities. To accurately record activities to roles, a matrix to map activities to corresponding roles is included in Appendix 1. Aggregation of the data in each participating site will inform the use of the nursing and support roles within the ED clinical setting to inform both the development of the tool and examples from practice on use of the tool to inform practice changes.

The following sections outline each of the components and individual elements of the tool.

2.0 Direct Patient Care Activities

Direct patient activities are defined as those activities which involve the patient directly, through the provision of care expressly to the patient. There are 16 individual elements outlined in this element of the tool as follows:

2.1 Clinical Assessment (Clinical Assessm)

Clinical assessment applies to those activities involving the direct clinical assessment of patients/children and includes:

CA1 Clinical assessment during Triage to assign to relevant category of care

CA2 History taking, as part of patient/child's primary assessment

CA3 Monitoring of patients/children in the waiting room, as part of triage process

CA4 Performing specific clinical assessments including: pressure ulcer assessment (e.g. Waterlow/ Braden); falls risk assessment; moving and handling assessments or other.

2.2 Nursing Procedure (Nursing Procedure)

Nursing procedure defines those procedures that are specific to nursing, and involve increased invasive nursing interventions.

NP1 Venepuncture and IV Cannulation

NP2 Urinary catheter insertion, Male and Female

NP3 Nasogastric tube insertion

NP4 Invasive monitoring (e.g. arterial pressure monitoring)

NP5 Application and management of O2 therapy

NP6 Patient suctioning (including application of gomco suctioning or directly suctioning a patient/child)

NP7 Performing splinting/casting, or review of same

NP8 Performing ultrasound

NP9 Nurse initiated investigations including pathology

NP10 Accessing and maintaining a central venous access device

NP11 Wound dressing including pressure ulcers/ Vac dressings

NP12 Performing procedures of “last rights” for deceased patient/child

NP13 Performing bladder irrigation

NP14 Managing patient/child restraint/challenging behavior

NP15 Managing patient/child resuscitation measures

2.3 Advanced Nursing Skills (Adv Nurse Skill)

Advanced nursing skills are those associated with Advanced Nursing Practice skills and may include:

ANP1 Suturing

ANP2 Wound closure

ANP3 Administration of medicines through advanced protocols specific to the Advanced Nurse Practitioner

ANP4 Performing gynae procedures and examinations: e.g., cervical smear

ANP5 Examining, diagnosing and autonomously treating minor injuries (e.g. fractures, dislocations, limb stabilisation, wounds etc: these will be confirmed with each of the clinical sites prior to data collection).

ANP6 Ordering and interpreting advanced laboratory testing and radiological investigations

ANP7 Foreign body removal from eye

ANP8 Nurse Defibrillation

ANP9 Prescribing of medicinal products for patients/children

ANP10 Safe administration of sedation

ANP11 PEG tube replacement

2.4 Medicines Management (Medicines Managmt)

Medicines management includes all aspects of medicines management directly involving the patient/child/parent.

MM1 Administration of medicines, via any route (including IV Fluids)

MM2 Preparing or checking medicines for administration

MM3 Observation of patient/child consumption of medicines

MM4 Clarification with patient/child/family/parent/guardian/carer on medicines management prior to initial presentation to ED or during ED admission i.e. medicines reconciliation

2.5 Clinical Observations (Clinical Obs)

Clinical observations include any observation undertaken to ascertain the patients/child's clinical condition.

CO1 Attaching equipment to perform blood pressure, pulse, temperature, Central Venous Pressure, O2 Saturations, ECG monitoring or urine monitoring.

CO2 Measuring blood pressure, pulse, temperature, Central Venous Pressure, respiratory rate, O2 Saturations, weight, neurological signs, pain score, elimination pattern or ECG pattern.

CO3 Recording EWS (or MEWS/NEWS/I-MEWS) score, or clinical observation measurements taken as outlined in 1.5.1 and 1.5.2.

CO4 Undertaking nutritional screening

2.6 Communication

Communication in this instance is any communication undertaken with the patient/child/parent/guardian directly, related to their care.

COM1 Communicating admission/discharge decisions with the patient and/or family/parent/guardian/carer

COM2 Educating the patient/child/guardian/family/carer regarding procedures/ diagnosis/ treatments/ prescriptions, or demonstrating use of equipment e.g. crutches

COM3 Providing support or reassurance to a patient/child/parent/guardian

COM4 Orientating the patient/child/parent to their ED surroundings, the location of the call bell and bathroom facilities

COM5 Communicating with a patient/family/carer to de-escalate a situation through non-violent crisis intervention

2.7 Admission and Transfer (Admit/Transfer)

All activities in arranging admissions/transfers of a patient/child in direct care are included in this activity.

AT1 Arranging transfer to another area in the hospital. E.g x-ray.

AT2 Arranging transfer to another area in the ED (e.g. CDU)

AT3 Arranging transfer to another hospital

AT4 Arranging admission to a ward/other area

AT5 Arranging/locating admission to an ED cubicle

2.8 Discharge and Escort (Discharge/Escort)

All activities related to the direct management of patient/child discharge or escort is included in this activity.

DE1 Escorting the patient/child to another area in the hospital. E.g. for diagnostics

DE2 Escorting the patient/child to another hospital

DE3 Escorting the patient/child to another area in the ED

DE4 Escorting a patient/child from an ambulance/helicopter to ED

DE5 Arranging discharge of a patient/child from the ED. E.g. organising discharge letters

DE6 Communication of the discharge decision to another facility/healthcare professional external to the hospital ED. E.g. residential care facility/GP/public health nurse

DE7 Co-ordination of discharge equipment and supplies. E.g. dressings

2.9 Moving and Handling (Moving & Handling)

All activities related to the direct moving/positioning or manual handling of a patient/child are included in this activity.

MH1 Assisting the patient/child to mobilise/walk

MH2 Reposition/turn a patient/child who is bed fast

MH3 Assist movement of a patient/child from trolley to bed/chair to bed/bed to chair

MH4 Assisting a patient/child to sit at the edge of a trolley/bed

MH5 Assisting the patient/child exhibiting challenging behaviour to move into or within the ED

MH6 Log rolling a patient/child in the ED

2.10 Nutritional Care (Nutritional care)

All activities directly related to provision of nutritional needs to a patient/child.

NC1 Feeding/giving oral fluids to a patient/child

NC2 Cutting/chopping food/pouring a drink/organizing food tray items for a patient/child to eat and drink

NC3 Preparing NG feeding equipment.

NC4 Feeding a patient/child via NG tube/parenterally

NC5 Encouraging a patient/child to intake oral diet and fluids

NC6 Preparing special dietary requirements: e.g. preparation of thickened fluids or bottle-feeds.

2.11 Personal Hygiene (Personal Hygiene)

All activities related to providing hygiene care directly to meet patient/child needs are outlined in this activity.

PH1 Assisting a patient/child to bathe/shower

PH2 Supervising a patient/child who is bathing/showering or in the bathroom

PH3 Performing personal hygiene needs for patient/child who is immobile and complete nursing care (including shaving for male patient)

PH4 Assisting/supervising a patient/child to perform oral hygiene

PH5 Performing oral hygiene for a patient/child.

2.12 Elimination Care (Elimination Care)

All activities related to providing elimination care directly to meet patient/child needs are outlined in this activity.

E1 Providing/removing bed pans/emesis bowls/changing soiled nappies (children)

E2 Assessing elimination output (measuring or observing or weighing nappies)

E3 Emptying urinary catheter/wound drainage system/urostomy/colostomy

E4 Changing a urinary catheter bag/urostomy or colostomy bag

2.13 Infection Prevention and Control (Infection Control)

This activity includes those activities directly related to the prevention of the spread of infection directly to the patient/child/others.

IC1 Decontamination of hands (Hand washing, or using hand rub/gel)

IC2 Application of Personal Protective Equipment

IC3 Disposing of clinical waste

IC4 Preparing sterile trolley/sterile equipment prior to procedure

2.14 Point of Care Testing (POCT)

This activity relates to those actions directly related to testing, specifically those at the point of care.

POC1 Gathering and labeling specimens for laboratory analysis

POC2 Gathering and labeling specimens for local (in the ED) analysis

POC3 Performing local (in the ED) analysis: e.g. glucometer testing, HCG testing, urinalysis

POC4 Interpreting local (in the ED) analysis test results

2.15 Assisting Doctors (Assisting Drs)

This activity outlines those activities undertaken in an assistive capacity to provide direct patient/child care. In this case it is defined as assisting doctors, and in the next activity it is defined as assisting others.

AD1 Assisting doctors in performing interventional procedures: e.g. chest drain insertion, central catheter insertion, manipulation of dislocations under inhaled sedation or use of conscious sedation.

AD2 Assisting doctors during emergency management of care: e.g. resuscitation measures

AD3 Assisting doctors on review of patient care (post call rounds) (similar to ward round activities but undertaken in the ED)

2.16 Assisting (Assisting)

A1 Providing assistance to any member of the healthcare team undertaking specific procedures: e.g. Assisting other nurses with a nursing procedure; assisting physiotherapist to undertake chest physiotherapy; assisting a speech and language therapist to perform a swallowing screen etc.

3.0 Indirect Patient Care Activities

Indirect patient activities are outlined as those activities that are essential to the daily delivery of patient/child/family care, in a broader sense than those activities directly involving the patient/child/parent. This however is not to say that they are not essential, as it should be noted that these elements of care delivery are only marginally less important than those activities outlined above in direct patient activities.

3.1 Recording Care (Recording Care)

This activity outlines the activities undertaken in recording the patients/child's journey and care in the ED.

REC1 Entering triage data into the patient management system

REC2 Completion of admissions record/recording of care

REC3 Maintaining the patients/child's records/notes/recording care/ongoing documentation

REC4 Documenting care delivery in an electronic system

REC5 Completion of referral/discharge documentation

3.2 Inter-professional Communication (InterProfComm)

This activity outlines a broad range of inter-related communication undertaken as part of the broader/extended delivery of care within the ED.

IPC1 Communicating with bed management to manage admissions and transfers

IPC2 Discussion/consultation with medical teams/other on admission/transfers patients/children within the department

IPC3 Receiving admission calls from another hospital

IPC4 Telephone consultation with GP regarding advice

IPC5 Consultation with laboratory/x-ray on tests and investigations results/analysis

IPC6 Consultation with other members of the Multidisciplinary Team regarding patient condition and care activities, including escalation to clinician as per EWS protocol

IPC7 Notification to coroner/Gardai/GP of death

IPC8 Notification of transplant co-coordinator

IPC9 Arranging patient transport

IPC10 Activation of the team in response to urgent/trauma presentation

IPC11 Activation of the security team in response to an urgent security issue

IPC12 Organisation of interpreters

IPC13 Paging a member of the healthcare team

3.3 Handover (Handover)

This activity outlines those activities undertaken to communicate patient/child specific information at specific time periods within the ED to inform overall/broad caseload management.

H1 Receiving handover from pre hospital care providers

H2 Handover to other nurses at change of shift

H3 Handover to support staff undertaking observation of patients/children (1-1 observation)

H4 Multidisciplinary team handover as part of department flow (team review at defined intervals throughout the shift)

3.4 Relatives Social Support (SocSupportRel)

This activity outlines the supportive activities undertaken in the ED, not directly related to the patient/child individually.

SOC1 Organisation of social work referral

SOC2 Notifying next of kin/relatives of patient/child death

SOC3 Providing emotional and psychological support of family/carers of patients/children in ED

SOC4 Providing emotional and psychological support of family/carers in viewing a deceased patient/child

SOC5 Accompanying parents/family members to a Critical Care/Intensive Care Unit post ED resuscitation management

SOC6 Managing phone calls/queries from relatives/parents/guardians

3.5 Clinical Instruction (Clinical Instruction)

This activity outlines those activities undertaken to facilitate staff development (both staff and students) which is important to the overall care of patients/children.

CI1 Instructing and supervising staff at the bedside

CI2 Assessing staff competence at clinical / professional skills at the bedside. (e.g. venepuncture and cannulation; history taking; triage assessment)

4.0 Allied Care Activities

Allied activities are those activities that are neither directly nor indirectly related to patient's/children's care; however they contribute to the overall management of the department.

4.1 Clerical (Clerical)

Clerical activities are those primarily related to administrative support activities in the ED, and predominantly include patient related clerical information.

CL1 Obtaining patient registration details

CL2 Entering patient registration details (electronically/via hard copy)

CL3 Retrieval, collection and delivery of the healthcare record

CL4 Assembly of the healthcare record

CL5 Collation of the healthcare record for transfer

CL6 Scanning/photocopying of relevant records for transfer/admission or other

CL7 Mail delivery and collection

CL8 Changing patient details on electronic healthcare record

CL9 Printing of relevant patient labels/documents for inclusion in the record

CL10 Obtaining confirmation and signatures for health insurance status

CL11 Supplying printers and faxes with paper

CL12 Follow up completion of discharge letters post discharge

4.2 Administrative (Administrative)

Administrative activities are differentiated from clerical by the nature of their overall purpose, which is the overall administrative management of the ED predominantly related to staffing.

ADM1 Completion of rosters

ADM2 Completion of time sheets or human resource data

ADM3 Communication with staff regarding rosters, change of off duty and requests

ADM4 Completion of staff replacement requests (Nursing Agency/Bank ordering), or business cases for staff recruitment

ADM5 Follow up on staff complaints/incident forms

ADM6 Collation and review of ED data

4.3 Allied Communication (Allied Communication)

This activity relates to communication which is related to the administrative functions within the ED.

ACM1 Communicating directly with senior nurse managers/other on staff replacement requirements.

ACM2 Follow up on patient complaints

ACM3 Co-ordination with IT personnel on IT systems/data management

4.4 Catering (Catering)

This activity relates to the mechanical process of catering activities in difference to the direct patient activities such as assisting a patient with their meals.

CAT1 Providing comfort catering (meals and drinks) to families/relatives of patients/children in the department

CAT2 Preparing meals/drinks for patients/children

CAT3 Delivering meals/drinks for patients/children

CAT4 Collecting and removing meals/drinks

CAT 5 Distributing and changing water jugs

CAT6 Completion of meal orders

4.5 Cleaning (Cleaning)

This activity includes cleaning within the department, both specific to trolleys, and more broadly to curtain cleaning schedules.

CLE1 Cleaning trays/lockers/tables/trolley's

CLE2 Bed making (stripping and replacing linen)

CLE3 Disposing of soiled linen

CLE4 Emptying bins/waste disposal/management

CLE5 Cleaning equipment not in use

CLE6 Cleaning, dusting or floor sweeping

CLE7 Cleaning spills (Clinical and non clinical)

CLE8 Cleaning and tidying the sluice room/clean utility/clinical treatment room

CLE9 Removing curtains/screens for cleaning

CLE10 Labeling/organising linen/curtains for cleaning

CLE11 Maintaining cleaning schedules/records of cleaning and disinfection

4.6 Errands (Errands)
This activity includes those activities where a member of the team is required to leave the department to collect or deliver items.

ER1 Collection of healthcare record outside of normal duties

ER2 Collection of medicines from another department/area

ER3 Collection of blood/blood products

ER4 Specimen delivery to laboratory/department

ER5 Photocopying/scanning away from the department

ER6 Collection of supplies from another department

4.7 Supplies and Stocking (Supplies)
The activities specified here relate to the management of stock control, ordering and processing within the ED.

SUP1 Ordering new equipment/supplies

SUP2 Completing safety/quality checks on equipment (e.g. resuscitation equipment)

SUP3 Ordering routine equipment or supplies for the department

SUP4 Accepting delivery of supplies/equipment, with required review and/or signature

SUP5 Restocking supplies: putting away stock deliveries

4.8 Meetings Administration (AdminMeet)
This activity is specifically related to attendance at those meetings for the purposes of the wider administration responsibilities within both the hospital and the ED.

AMI1 Attending bed management meetings

AMI2 Attending hospital administration meetings (Nurse Manager meetings etc)

AMI3 Attending clinical quality meetings (e.g. mortality and morbidity case reviews)

AMI4 Preparation for administrative meetings

4.9 Clinical Audit and Research (Audit/Research)
All activities associated with planning or participating in clinical audit or research is included in this activity.

CAR1 Conducting clinical audit (e.g. hand hygiene audit; medicines audit etc)

CAR2 Preparing/interpreting audit results

CAR3 Reviewing research literature (including on line website search)

CAR4 Developing research proposals

CAR5 Gathering/interpreting/analyzing/reporting research data

4.10 Supervising and Educating (Supervis/Educ)
This activity includes those actions directly related to supervising other staff for the purposes of professional development along with the activities involved in staff development through education/in-service.

SE1 Preparing a presentation for education in-service delivery (e.g. grand rounds)

SE2 Developing a poster for presentation

SE3 Reviewing, organising and planning in-service education in the department (includes searching literature/websites e.g. HSELand)

SE4 Delivering in-service education/orientation

SE5 Attending in-service education/orientation

SE6 Reviewing, developing and searching policies/protocols/guidelines electronically/hard copy

SE7 Completion of learners' competency documents/relevant assessment documentation

SE8 Orientation of new staff to the department

SE9 Supervising/assessing the work of learners/other

5.0 Non Patient Activities

These activities are those that are unrelated to patient care/allied patient care activities yet form part of the overall processes within any ward/department including the ED.

5.1 Breaks (Breaks)
BR1 Leaving the ED for official meal breaks

5.2 Personal Time (Personal)
PT1 Engaged in personal discussion

PT2 Use of mobile phone for personal use

PT3 Use of technology for personal use (e.g. internet use for personal reasons)

PT4 Time away from the ward for personal reasons (e.g. comfort break)

5.3 Unoccupied (Unoccupied)
UNO1 Unoccupied - where the healthcare worker does not appear to be engaged in any direct, indirect, allied or other activities.

Appendix 4

Emergency Nursing Workforce Planning Toolkit Evaluation

Purpose of the evaluation

The purpose of this evaluation is to seek your feedback on the relevance, applicability, validity and ease of use of this toolkit to support nursing workforce planning in your role in the Emergency Department.

How to complete the evaluation

The toolkit is divided into 6 individual sections along with an introductory section including approaches to nursing workforce planning and signposting.

The evaluation will seek your feedback on the toolkit overall from a structure, process and outcome perspective.

There will also be a final section for you to include any additional comments you may wish to add which will further support the development of the toolkit.

We would like to thank you in advance for your support and engagement in undertaking this evaluation, which will help to further strengthen this toolkit for our nurses in practice

Section One

This first section seeks your feedback on the structure, process and outcomes of the toolkit and the tools within the toolkit.

In order to find out your views on the Toolkit, please insert an X under the number which most corresponds to **your level of agreement** with these statements

Answer guide:

1. **Strongly agree**
2. **Agree**
3. **Unsure**
4. **Disagree**
5. **Strongly disagree**
6. **Not Applicable**

Your views on the structure of the toolkit		*1*	*2*	*3*	*4*	*5*	*6*
	The toolkit layout is attractive/encouraging to read the toolkit						
	There are clear instructions on navigating the toolkit						
	Explanations and definitions within the toolkit are clear						
	The toolkit is easy to read						
	The toolkit is easy to understand						
	The toolkit is confusing						
	The depth of content was just right						
	The content was presented in an easy to follow manner						
	The content was repetitive						
	I expected to find more information in the toolkit						
	The toolkit was difficult to navigate						

Your views on the tools within the toolkit (Process)		1	2	3	4	5	6
	The templates in the toolkit were easy to follow						
	The explanations on the use of the templates make them easy to follow						
	The toolkit was cumbersome to use						
	The templates provided were useful						
	The case studies were useful						
	The examples provided were useful						
	The case studies were relevant						
	The tips provided were useful						
	The toolkit is appropriate to my role/grade						
	The case studies were repetitive						

Your views on the benefit of the toolkit to your practice (Outcome)		1	2	3	4	5	6
	My understanding of workforce planning has improved since reading this toolkit						
	I believe this toolkit will help me in planning my nursing workforce in my Emergency Department						
	I believe that this toolkit has helped motivate me to undertake workforce planning activities in my Emergency Department						
	I believe this toolkit has enhanced my confidence to undertake new/ additional workforce activities in my Emergency Department						
	I would recommend this toolkit to a colleague in Emergency Care						
	I would recommend this toolkit to a colleague in areas other than Emergency Care						

Section Two

This final section provides you with the opportunity to add any additional comments you may wish to make about the toolkit.

Overall comments on the toolkit

_____

_____

_____

Appendix 5
Blank Templates

Section 1 Demand for Care

Template 1

Assessing Demand: Patient Volume and Profile	
What is the average number of presentations each day to your ED?	
How many patients each year presenting to your ED are assigned a Manchester triage category of:	
Manchester Triage Category/ Irish Childrens Triage System 1	
Manchester Triage Category/ Irish Childrens Triage System 2	
Manchester Triage Category/ Irish Childrens Triage System 3	
Manchester Triage Category/ Irish Childrens Triage System 4	
Manchester Triage Category/ Irish Childrens Triage System 5	
What was the number of new Adult and Paediatric presentations to your ED for the year?	
What was the number of scheduled returns or patients who returned to review clinics at the ED, by Adult/Child or % Adult and % Paediatric presentations to your ED for the year?	
What was the number of ambulance attendances to your ED for the year?	
What the number of older patient presentations aged 65yrs to 80yrs, to your ED for the year?	
What was the number of older patient presentations, aged 80+yrs to your ED for the year?	
What was the number of Mental Health patient presentations to your ED for the year?	
What was the number of admissions to your Clinical Decision Unit from your ED for the year? (as applicable)	
What was the admission rate (%) for all presentations to your ED for the year?	
What was the number of patients requiring transfer and escort by your team to another ED/ Facility for specialist services for the year? On average what was the total time away from your ED per transfer/escort?	
What was the number of patients requiring transfer and escort by your team to another ED/ Facility for mental health services? On average what was the total time away from your ED per transfer/escort?	

Section 1 Demand for Care

Template 2

Assessing Patterns of Demand		
What are the yearly numbers presenting to your ED during the daytime shift?		
What are the yearly numbers presenting to your ED during the night time shift?		
What are the yearly numbers presenting to your ED on the following days of the week and for which shift:		
Weekday	Day	Night
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		
What are the yearly numbers presenting to your ED on the following months of the year:		
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

Section 2 Operational Characteristics

Template 1

Current ED Infrastructure & Physical Layout		
How many triage rooms/spaces are available?		
What are the design factors of triage that need to be accommodated when staffing these areas?		
How many resuscitation bays are available and where are they located?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
How many minor and major cubicles are available?	**Minor**	**Major**
What are the design factors of these areas that need to be accommodated when staffing these areas?		
How many other patient spaces are available or are adjacent to your department?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
What is the total number of single rooms available?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
How many dedicated rooms for relatives/viewing deceased patients/mental health assessment and treatment are available?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
What is the total number of spaces available for paediatric patients?		
What are the design factors of these spaces that need to be accommodated when staffing these areas?		
How many work stations are there, and what are the design features affecting patient care delivery and staffing?		
What is the location of the ED in relation to other high use services (e.g. diagnostics, pharmacy, supplies and storage areas)		
Describe the key factors and impact of these locations that need to be accommodated in staffing the ED.		
What technology is available to support organisation and delivery of care?		
Describe the key factors and impact of the current technology on staffing in the ED		
If so is your ED team involved in planning?		

Section 2 Operational Characteristics

Template 2

		Operational Processes Assessment Tool				
Step One – Assessing Demand		**Review the data collected in section 1 with particular attention on:**				
	A	Profile of presentations to ascertain percentage of presentations for:				
		Children: Adults: Over 65yrs, Over 80yrs: and Mental Health % of admissions to indicate complexity % breakdown of MTS/ ICTS categories to indicate acuity				
	B	Patterns of presentations to ascertain peak and troughs of activity level throughout the day/week/season to inform the most effective time plan for model's of care and patient pathway.				
	C	**Ascertain common presenting conditions**				
		Examine ED presentations and identify the Top Ten presenting conditions. This will support the identification of appropriate protocols, diagnostics and scope for nurse managed care in the ED.				
		1	6			
		2	7			
		3	8			
		4	9			
		5	10			
Step Two- **Examining access to services and processes**		**Review the following with your team**				**Yes/No**
	A	Does your ED have clearly defined criteria for selection and ordering of investigations for conditions?				
	B	Does your ED have condition specific care pathways in operation? *If yes , list all those in operation*				
	C	List those condition specific pathways that require development in your ED based on Step One data above:				
	D	Consider the access to diagnostic services in your ED				
			8hrs/day	14hrs/day	24hrs/day	Other
		X-RAY				
		CT				
		MRI				
		Cardiac Catheterisation				
		Ultrasound				
		Laboratory Services				

Template 2 (Continued)

		Operational Processes Assessment Tool	
		Identify your current processes of care	
Step Three- Review of Current Operational processes			**Yes/No**
	A	Patient Streaming Hours of operation:	
	B	Fast Track Hours of operation:	
	C	Rapid Assessment and Treatment Hours of operation:	
	D	AMU/AMAU/MAU Hours of operation:	
	E	Psychiatric Liaison Hours of operation/availability of service:	
	F	Aged Care co-ordination team/liaison/defined process Hours of operation/availability of service:	
			Yes/No
Step Four- Opportunities to improve		Are there opportunities to improve the current model of care	
		If yes outline justification for new/reconfiguration of the model of care, and what is required for implementation (e.g. skills, reconfiguration, protocols, extended hours of diagnostics etc)	

Staffing Establishment

WTE	CNM	Supervisory CNM	RN	RCN	Clinical Facilitator	Nurse Specialist (e.g ANP/RAT/GP Liaison)	HCA	Total	Subtotal
Funded Establishment									
Actual Establishment									
Permanent Vacancies									
Temporary Vacancies									
Sick Leave									
Agency									
Nurse Bank									
Overtime									

Example A

WTE	CNM	Supervisory CNM	RN	RCN	Clinical Facilitator	Nurse Specialist (e.g ANP/RAT/GP liaison)	HCA	Total	Subtotal
Funded Establishment	5	4	50	4	1	1	4	**69**	
Actual Establishment	4	4	46	3	1	1	3	**62**	-7
Permanent Vacancies	1	0	2	1	0	0	0	**4**	
Temporary Vacancies	0	0	2	0	0	0	1	**3**	
									7
Sick Leave	0	0	0.5	0	0	0	0.5	**1**	1
Agency	0	0	3	0	0	0	0.5	**3.5**	
Nurse Bank	0	0	0	0	0	0		**0**	
Overtime	0.5	0	0	0.5	0	0		**1**	
									4.5

In the above example, the gap between the funded and actual establishment is 7WTE. This is made up of 4 permanent vacancies, and 3 temporary vacancies. Adding to the vacancy level is sick leave at 1WTE, therefore the felt vacancy level is 8WTE. Supplemental staffing is filling to the level of 4.5WTE, therefore there is a deficit of 3.5WTE. This is being met with 3.5WTE agency which is costly by comparison to replacement of the permanent WTE, which will be evident in the financial budget for the department.

Section 3 - Work Force Capacity

Template 2

Observation Analysis

Staff Grade:	DATE:	TIME:	

Activity	Initials:						Initials:						Initials:						Total
	0	10	20	30	40	50	0	10	20	30	40	50	0	10	20	30	40	50	
Face to Face Care																			
Clinical Assessment																			
Nursing Procedure																			
Advanced Nurse Skill																			
Medicines Management																			
Clinical Observations																			
Communication																			
Admit/Transfer																			
Discharge/Escort																			
Moving & Handling																			
Nutritional Care																			
Personal Hygiene																			
Elimination Care																			
Infection Control																			
Point of Care Testing																			
Assisting Dr																			
Assisting																			
Near to Bed Care																			
Recording Care																			
Handover																			
Inter-Profes Comm																			
Soc Support Rel																			
Clinical Instruction																			
Connected Care																			
Clerical																			
Administrative																			
Allied Communication																			
Catering																			
Cleaning																			
Errands																			
Supplies																			
Admin Meet																			
Audit/Research																			
Supervising/Educating																			
Staff Activities																			
Breaks																			
Personal																			
Unoccupied																			
Other																			
TOTAL TIME (Cumulative of TOTAL column multiplied by 10 (10minutes per recorded activity)																			

Section 3 Workforce Capacity

Template 3

Role Development Exercise

Activity/ Function/ Role/ Task	Who currently does this	Who can do this	Who should do this	Who ONLY should do this
List actions necessary to implement role development/transfer/sharing - ensure the approach is structured and reviewed **Identify the following to identify a structures approach to this change**				
Person/team responsible for change implementation				
Time frame for completion of change				
Necessary education and training				
Necessary policies/ guidelines/ protocols				

Section 4 - Workforce Capability

Template 1

Capability Assessment

Domain	Capability	CNM N=	RN N=	ANP N=	ANPC N=	CNS N=	HCA N=
Academic Profile	Certificate/ENB in Emergency Nursing						
	Foundation Programme in Emergency Nursing						
	Nursing Degree						
	Management Degree						
	PG Diploma/HDip in Management/Leadership						
	PG Diploma/HDip in Emergency Nursing						
	PG Diploma/HDip in other specialist course						
	Masters in Nursing/Management						
	Currently undertaking an academic course						
	FETAC Level 5						
Mandatory Education Profile	Minimal Lifting and Handling certified current						
	Fire Training certified current						
	CPR certified current						
	Hand Hygiene Training certified current						
Discipline Specific	Registered RGN only						
	Registered RCN only						
	Registered RGN & RCN						
	Registered RGN & Midwife						
	Registered RGN & RMHN						
	ACLS certified current						
	ALS Neonatal certified current						
	ALS Paediatric Programme certified current						
	ALS Trauma Programmes certified current						
	MIMS/HMIMS certified current						
	EMBS certified current						
Specific ED Skillset	Manchester Triage System/ICTS Training						
	Attended V&C training						
	Practicing V&C						
	Casting and Splinting competent						
	Practicing Casting and Splinting						
	Competent to perform ECG						
	Competent to interpret ECG						
	ABG sampling competent						
	Practicing ABG sampling						
	NIV competent						
	Practicing NIV						
	Male catheterisation competent						
	Practicing male catheterization						
	Suturing competent						
	Practicing suturing						
	Wound closure competent						
	Practicing wound closure						
	Attended cardiac & stroke thrombolysis treatment training						
	Competent to support cardiac & stroke thrombolysis treatment						
	Competent in use of ICT systems						
	Registered Nurse Prescriber						
	Registered X-Ray Prescriber						
	Other as identified by service						

Section 4 - Template 2 Composite ED Profile

Composite ED Profile						
Nursing Profile						
Total number of Nurses (Headcount)						
Composite Domain	**Discipline**	**Novice**	**Advanced Beginner**	**Competent**	**Proficient**	**Expert**
Triage	Adults					
	Children					
Minor Injuries	Adults					
	Children					
Majors	Adults					
	Children					
Resuscitation	Adults					
	Children					
Nurse Leaders Profile						
Total number of Nurse Leaders (Headcount)						
Composite Domain	**Competency**	**Novice**	**Advanced Beginner**	**Competent**	**Proficient**	**Expert**
Leadership	Advanced management of patient flow					
	Advanced clinical decision making					
	Advanced knowledge of policy, legal ethical and clinical governance					
	Advanced role modeling					
Human Resources	Advanced roster building					
	Advanced workforce management: staff deployment/allocation, supervision; on a shift basis					
	Advanced activity to support staff retention and engagement					
Communication	Advanced inter-professional communication					
	Effective inter-disciplinary team working to support prompt clinical decisions to affect quality, safety and processes					
Quality, Safety and Risk	Effective monitoring and action plans to support high quality care					
	Effective reporting and management of risks/patient safety concerns					
	Competent project and change management					
Financial Planning	Effective development of business plans to support service developments					
	Effective nursing staffing budgetary management					

Section 4 - Workforce Capability

Template 3

Orientation and Development Programmes

Orientation Progamme	Formally	Informally	None
How are orientation/induction programmes for new staff managed in your ED? (this is a specific ED programme)			
How is the orientation/induction programme reviewed for content and currency?			
Following orientation/induction how is clinical supervision/ preceptorship co-ordinated and planned as part of educational opportunities in the department?			
Professional Development	**Yes**	**No**	
Is there a formal process for identifying, planning, managing and monitoring personal professional development (PPD/CPD) of your ED team? If yes how often do PPD/CPD meetings take place?			
Is there a formal process for staff performance review in your ED?			
Is there a formal process of clinical supervision/preceptorship for new and existing staff in your ED?			
Are there flexible educational models to meet the challenges of staff release for education (e.g. blended or self directed learning)?			
Is there a formal clinical leadership development programme in your ED? (Clinical leadership programme is the facilitation of nurses to develop as shift leaders through a formal clinical supervision process)			
Is there a formal process in place for the review and development of policies, protocols, procedures and guidelines specific to the ED?			
Is there a formal process to staff to feedback on their orientation/clinical supervision/preceptorship processes in the ED?			

Section 5 - Nursing Outcomes

Template 1

		Yes	No
Step 1	Are there locally developed indicators which could be used/adapted for use in your ED?		
Review current indicators	Are there hospital group developed indicators which could be used/adapted for use in your ED?		
	Are there hospital group developed indicators which are currently used in another hospital within the group which could be used in your ED?		
	Are there nationally developed indicators which could be used/adapted for use in your ED?		
	Are there internationally developed indicators which could be used/adapted for use in your ED?		
Step 2	Has the expertise required to develop the indicators been defined?		
	Is the expertise available within the existing ED team?		
	Does your ED team need to consult with external expertise either outside of your ED or outside of your Hospital?		
Gather Key Stakeholders	Has your team considered the inclusion of service users in the development of your indicator?		
	Has your team considered the inclusion of key stakeholders within your hospital group from other EDs to support the design of a collaborative indicator?		
	Has your team identified the level of support required from management or members of the multidisciplinary team to integrate the indicator into practice?		
	Has your team defined the level of commitment required by the team stakeholders to develop the indicator?		
	Has your team defined the timeframe for the completion of the development of the indicator including the timeframe for pilot test of the indicator?		
Step 3	Is your indicator one which is likely to have the greatest impact on patient safety or outcome?		
Defining the Indicator	Has your indicator been defined as a Structure/Process/Outcome indicator?		
	Does your chosen indicator have the potential to influence care?		
	Has your team defined the goals of the indicator and intended audience?		
	Is there available evidence to support the appropriateness of the indicator?		
	Is this evidence and the proposed indicator acceptable to the stakeholders, management and wider ED team?		
	Has the indicator been deemed relevant and nurse sensitive by the ED nursing team?		
	Is the defined indicator sensitive to detect small changes in care quality?		
	Has the data collection process been defined to include; data collection method & source (e.g. observation/health record audit); data collection frequency; data collection minimum data set; and data collectors?		
	Is there elements of the data to be collected that are already collected by another source which could be used to reduce the burden on data collectors?		
	Has the burden of data collection on current resources been quantified to ensure no impact on care delivery?		
	Has the data analysis and reporting process been defined ; to include reporting schedule; reporting structure (internally and externally to the ED and hospital); reporting timeline to facilitate timely practice change as necessary?		
	Has the threshold/target been defined?		
	Is there a defined timeframe for pilot test of the indicator?		
	Is there a defined evaluation methodology post pilot test of the indicator; e.g. data collector feedback, data analyst feedback, validity, reliability, applicability and relevance?		
Step 4 Reporting & Review	Is there a defined process to action the performance of the indicator to support improvement as necessary		
	Is there a defined process for continuous review of the indicator?		

Section 6 - Financial Planning Template 1

Business Plan	
Sponsor	
Lead Owner	
Hospital Name (particularly if in a hospital group)	
Department	
Directorate	
Application Date	

1	Introduction/Background/Case for change

In this section describe the following:

- Existing service provision
- Detail an overview of the key issues
- Describe how the proposal will address these issues
- Detail who has been involved and who will be affected
- Define the target population
- If the proposal is in support of a new technology, detail and differentiate from its competitors.

2	Strategic Context/Corporate Plan/Perspective

In this section consider the following:

- State how the project fits with the needs of the service both locally/nationally; corporately; at unit and directorate level.
- State the perspective/viewpoint from which the project proposal is conducted. E.g. ED or local hospital
- Outline how the project will assist in the achievement of national/local/group targets
- Outline whether the proposal will improve the utilisation of resources and how
- Consider whether your proposal is designed to be read by the key decision makers

3	Project Scope and Objectives

In this section include the following:

- State the key objectives as SMART; Specific, Measurable, Achievable, Realistic and Timed
- State the key benefits: measurable benefits; qualitative benefits
- Specify benefits according to; organisational, financial, resource, clinical, equipment or other
- Clearly outline the efficacy, effectiveness and safety; consideration of the outcomes that affect resource utilisation should be included.

4	Risks and Constraints

In this section describe the following:

- Detail the risks of “maintaining the status quo” and quantify these risks.
- Include risks associated with the new technology/initiative such as adverse events. Include evidence emanating from Randomised Controlled Trials (RCTs) where available.
- Categorise into: developmental risks; implementation risks; operational risks
- Consider the following risks: staffing; capacity; change of process (e.g. resistance)
- Consider the inclusion of formal risk assessment documentation
- Document the risks if the proposal is not implemented

Template 1 cont'd

5	Options/Alternatives/Choice of Comparators

In this section consider the following:

- Outline the alternatives to the current proposal in detail
- Describe how the alternative may or may not achieve the proposal objectives
- Identify why the current proposal is the preferred option
- Describe how the proposal differs from current "routine care"
- Describe the comparators in sufficient detail to provide for assessment
- Include evidence of efficacy/safety and how it relates

6	Financial/Budget Impact Analysis

In this section consider the inclusion of the following; not all will be applicable to every business plan;

- **Timeframe**; core analysis should estimate the annual financial impact over 5 years
- **Define project demand**: define the following
- Population availing of the new technology*/other
- Population eligible and likely to avail of the new technology/other
- **Costing**: outline the methods used to generate the costs clearly
- Outline the direct costs associated with the new technology or other (e.g. cost of a new drug and staffing to administer the drug)
- Outline the distinction between incremental and total costs (total cost is the cost of the new technology inclusive of its impact on the replacement of care.
- Outline Capital Costs as applicable: these are costs usually incurred as one off, whereby the annual depreciation should be included over the 5 year term.
- Labour costs: this includes salary costs, and should be based on the consolidated salary scales available for public sector employees. Example A demonstrates the calculation of direct pay costs)
- Technology costs: the average costs associated with the new technology
- Cost offsets: with the introduction of a new technology may come a reduction in the resource use and associated costs within the system. A scenario analysis should be included to outline the realisation of savings from other areas; e.g. in staff requirements.

7	Impact Analysis

In this section consider:

- Expected outcomes on: activity; staffing; income; clinical

8	Project Management and Evaluation

Include in this section:

- Expected completion date of the project and key milestones
- Outline the project team/key stakeholders
- Describe project monitoring of progress and reporting
- Outline when, how and by whom the project will be evaluated for achievement of stated objectives

Tús Áite do Shábháilteacht Othar
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