Report of the Working Group to:

examine the development of appropriate systems to determine nursing and midwifery staffing levels

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Nurses and midwives account for 35% of the workforce engaged in the delivery of healthcare services in Ireland. It is paramount that this valuable resource is utilised effectively and efficiently to meet the healthcare needs of the population.

The Report of the Commission on Nursing: A Blueprint for the Future (1998) identified that it was essential to make the best use of the nursing and midwifery workforce. Recommendation 7.63 proposed examining opportunities “for the increased use of care assistants and other non-nursing personnel” and, secondly, to explore the development of appropriate systems to determine nursing and midwifery staffing levels.

Work on the first part of the recommendation produced the Effective Utilisation of Professional Skills of Nurses and Midwives (2001) report, leading to improved training and an expanded role for health care assistants. The second part of the recommendation, on systems to determine staffing levels, is dealt with in this report.

Determining nursing staffing levels is a key component in the management of an effective health service. This report sets out the principles which should underlie systems for determining staffing levels. Among the important elements which must be addressed are skill mix, patient dependency and activity levels.

It gives me great pleasure to endorse the recommendations contained in this report, which provide a framework for the identification of systems for determining nursing/midwifery staffing levels. Appropriate systems to determine staffing will greatly assist managers in ensuring patient safety and quality of care, and provide data to inform workforce planning at local, regional and national level. The potential of modern information technology must be exploited to assist nurses and midwives provide quality health care while utilising our resources in a cost effective and efficient manner.

The publication of this report is the culmination of the deliberations of the working group over eighteen months. I wish to formally extend my appreciation to all those involved - the members of the Working Group, the Workforce Planners Sub-group and the Directors of Nursing and Midwifery who facilitated site visits. It remains for me to thank Tracy O’Beirne, Nurse Advisor, for leading this project and preparing the final report.

Mary McCarthy
Chief Nursing Officer
# TABLE OF CONTENTS

Foreward 3  

List of Abbreviations 7  

Executive Summary 9  

Chapter One – Introduction  
1.1 Background 11  
1.2 Establishment of the Working Group 11  
1.3 Terms of Reference 11  
1.4 Methods of Work 12  
1.5 Acknowledgements 12  

Chapter Two – Literature Review  
2.1 Introduction 13  
2.2 Contemporary Nursing and Midwifery Workload Planning Systems 13  
2.3 Skill mix 15  
2.4 Workload Assessment and Patient Dependency 15  
2.5 International Experience 16  
2.6 Ireland 17  
2.6.1 Health Service Reform Programme 18  
2.7 Working Towards the Future 19  

Chapter Three – Irish Health Care Setting  
3.1 Introduction 20  
3.2 Definition of Skill Mix 20  
3.3 Contemporary Workload Planning Systems Utilised in Irish Nursing and Midwifery Wards/Units 20  
3.4 Presentations 21  
3.5 Questionnaire 21  
3.6 Site Visits 22  
3.7 Developments at Local Level 24  
3.8 Conclusion 25  

Chapter Four – Principles  
4.1 Introduction 26  
4.2 Skill Mix 26  
4.3 Workload Assessment and Patient Dependency 27  
4.4 Quality Indicators 27  
4.5 Rostering 27  
4.6 Environment 28  
4.7 Education and Training 28  
4.8 Information Management and Technology 28  
4.9 Systems Integration 29  
4.10 Conclusion 29
# Chapter Five – Conclusions and Recommendations

5.1 Conclusions

5.2 Recommendations of the Working Group

## References

## Bibliography

## Appendices

<table>
<thead>
<tr>
<th>Appendix One:</th>
<th>Working Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix Two:</td>
<td>Site Visit Questionnaire</td>
</tr>
<tr>
<td>Appendix Three:</td>
<td>Workforce Planners Sub-group</td>
</tr>
<tr>
<td>Appendix Four:</td>
<td>List of Site Visits and Contacts</td>
</tr>
<tr>
<td>Appendix Five:</td>
<td>Table of Results from Site Visits</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
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<tr>
<td>AMNCH</td>
<td>Adelaide and Meath Hospital, incorporating the National Children’s Hospital</td>
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<td>CNM</td>
<td>Clinical Nurse Manager</td>
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<td>DATH’s</td>
<td>Dublin Academic Teaching Hospitals</td>
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<td>DoHC</td>
<td>Department of Health and Children</td>
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<td>DON</td>
<td>Director of Nursing</td>
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<td>GRASP</td>
<td>Grace Reynolds Application and Study of PETO</td>
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<td>HCA’s</td>
<td>Health Care Assistants</td>
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<td>HIS</td>
<td>Hospital Information System</td>
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<td>HSE</td>
<td>Health Service Executive</td>
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<td>HSEEA</td>
<td>Health Service Executive-Employers Agency</td>
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<td>ICN</td>
<td>International Council of Nurses</td>
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<td>INIS</td>
<td>Integrated Nursing Information System</td>
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<td>INO</td>
<td>Irish Nurses Organisation</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>MMUH</td>
<td>Mater Misericordiae University Hospital</td>
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<td>MWHB</td>
<td>Mid-Western Health Board</td>
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<td>NDS</td>
<td>Nursing Dependency System</td>
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<td>NHS</td>
<td>National Health Service</td>
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<td>NMPDU</td>
<td>Nursing and Midwifery Planning and Development Unit</td>
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<td>PNA</td>
<td>Psychiatric Nurses Association</td>
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<td>PPARS</td>
<td>Personnel, Payroll and Related Systems</td>
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<td>SIPTU</td>
<td>Service Industrial Professional and Technical Unions</td>
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<td>SOPRA</td>
<td>System of Patient Related Activity</td>
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<td>UK</td>
<td>United Kingdom</td>
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<td>WTE</td>
<td>Whole Time Equivalent</td>
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EXECUTIVE SUMMARY

In January 2004 a working group was established to “examine the development of appropriate systems to determine nursing staffing levels” as recommended in the Report of the Commission on Nursing (1998 para 7.63). The Working Group agreed the terms of reference which included a literature review, a remit to investigate systems currently utilised in Ireland to determine staffing levels and to recommend principles to underpin any future systems.

The literature review suggests that best practice in relation to determining staffing levels cannot clearly be identified. All approaches have their inherent strengths and limitations. The choice of method or system to determine staffing levels is largely dependent on the context in which it will be used.

A questionnaire was sent to all hospitals by the regional workforce planners to evaluate the current systems being utilised in the Irish healthcare system. The results revealed from a response rate of 56%, that 67% determined staffing levels by professional judgement or based on historical staffing levels. Some organisations had implemented a structured automated method/system to determine staffing levels. Site visits were arranged to determine practice and to examine whether they could be replicated or adapted to suit other organisations.

Grace Reynolds Application and Study of PETO (GRASP) and Criteria for Care are the two main workforce planning systems currently being utilised in Ireland. It became apparent during the site visits that both systems met the particular needs of the organisations. This correlated with the findings in the literature review. A number of common themes were evident in both systems, and these are used to develop the principles for this report. These guiding principles should be used as an overall guide to determine nursing and midwifery staff levels within the Irish healthcare system.

It was recognised by the working group that no one system could be adopted across the Irish healthcare setting due to its diversity and complexity. This report provides the foundations for assisting nurses and midwives in determining staffing levels. A pilot study utilising the principles identified in this report is required before any future recommendations can be made.


CHAPTER ONE

INTRODUCTION

1.1 Background
The Report of the Commission on Nursing (1998) provided the impetus for unprecedented change in nursing and midwifery in Ireland. The Commission considered many issues in relation to nursing and midwifery and recommended a number of changes. Many of the key recommendations of the Commission have been implemented in the last six years.

Since the publication of the Report of the Commission on Nursing (1998) another major challenge facing the health services has emerged namely, the recruitment and retention of healthcare staff especially nurses and midwives. Staffing issues and their impact on the quality of care delivered, has a major impact on health outcomes and is the largest single budget item for organisations. The mean annual turnover rate of nurses and midwives in Ireland peaked in 1999 at 17% (Department of Health and Children, 2002). Consequently, a number of recruitment and retention initiatives have been implemented by the Department of Health and Children including, the funding of part-time nursing degrees and specialist nursing courses. Nursing and midwifery shortages and the effective utilisation of nursing and midwifery skills are key issues impacting upon the overall delivery of healthcare.

The Report of the Commission on Nursing (1998) made two recommendations in paragraph 7.63. Firstly, it recommended that the Department of Health and Children, health service employers and nursing organisations examine opportunities for the increased use of care assistants and other non-nursing staff. This area was examined by a national working group and resulted in the publication of the Effective Utilisation of Professional Skills of Nurses and Midwives: Report of the Working Group (2001). The second recommendation was to explore appropriate systems to determine nursing staffing levels.

1.2 Establishment of the Working Group
In January 2004, a working group was established to complete the second recommendation of paragraph 7.63 of the Report of the Commission on Nursing (1998). The working group membership is in Appendix One.

1.3 Terms of Reference
The terms of reference for the group were agreed as follows:

1.3.1 Agree a common understanding of the term skill-mix in the healthcare environment and its application in determining nursing/midwifery staff levels.

1.3.2 Identify and evaluate the current systems being utilised in the Irish healthcare setting and to identify areas of best practice.

1.3.3 Review literature in relation to the current systems of determining nursing/midwifery staff levels in a national and international context and to determine whether these systems have the potential to be adopted/modified to suit the Irish health care system.

1.3.4 Recommend principles underpinning systems of determining nursing/midwifery staff levels within the Irish healthcare system.
1.4 Methods of Work
The working group held six meetings between January 2004 and June 2005. The group recognised the need for expert advice in the area of skill mix, workload assessment and the need to examine current workload systems. The work of the group was informed by a number of presentations.

A questionnaire was developed, distributed nationally and analysed with the help of the workforce planners of the Nursing and Midwifery Planning and Development Units (NMPDU’s). The questionnaire aimed to identify current systems for determining staffing levels and also identified organisations that had or were in the process of developing workload systems to determine staffing levels. Subsequently, a number of site visits were arranged to allow for further in-depth data collection and observation.

Throughout its deliberations, the Working Group emphasised that this was not an exercise to reduce the numbers of nurses or midwives employed in the service, but to ensure the effective utilisation of the professional skills of nurses and midwives in the delivery of quality healthcare.

1.5 Acknowledgements
The Working Group wishes to acknowledge and thank the Directors of Nursing and Midwifery for facilitating both the completion of the questionnaire and the site visits, the workforce planners of the NMPDU’s, and to those who give presentations to the group.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction
Healthcare systems spend over 70% of their budget on staff (Buchan et al, 2000). The aim of healthcare service managers is the delivery of a high quality patient centred service. This is a complex and often difficult task requiring a clear understanding of the healthcare system. The issue of improved patient outcome and the best use of resources are both major considerations in the provision of quality healthcare.

Internationally there has been a vast increase in research and resources aimed at workforce planning issues as countries strive to improve their healthcare systems. This literature review is intended to provide an overview of both the studies undertaken in workforce planning and how other countries have attempted to address this issue.

2.2 Contemporary Nursing and Midwifery Workforce Planning Systems
The pressures of an ever-increasing nursing and midwifery workload and the recognition that staffing levels can influence patient outcomes (Aiken et al, 2002) have led attempts to identify best practice in determining nursing and midwifery staffing levels.

Any nursing and midwifery workload tool should take account of the impact of developments in patient need, health technologies, shorter hospital stays, any increase or decrease in acuity, and should reflect emerging workload issues. The criteria for selecting a method of workload measurement should include:

- A problem-centred approach that was readily understood and acceptable to all those involved;
- Relevant information as quickly and cheaply as possible;
- Recognition of the unavoidability of professional judgements being included;
- The capacity to inform and question and allow for open-ended inquiry; and
- A needs based approach.

(Royal College of Nursing 2000)

The process of estimating and meeting patients’ needs for nursing care is complex. While research studies have illustrated that workforce measurement tools offer useful assistance to nurses, they also state there is no perfect tool to solve all problems (Arthur and James, 1994; Hughes, 1999).

According to Royal College of Psychiatrist’s report, Not Just Bricks and Mortar (1998), there are three methods commonly employed to determine nurse staffing levels within acute mental health services. These are:

- professional judgement;
- patient dependency; and
- activity analysis.

The report suggests that those methods most likely to succeed are those that do not rely heavily on mechanistic data collection or on the unsupported opinion of individual managers.
In 2002, the Department of Health (UK) commissioned Dr. Keith Hurst of the Nuffield Institute for Health, Leeds University to systematically review literature relating to determining staffing levels. His work resulted in the publication of *Selecting and Applying Methods for Estimating the Size and Mix of Nursing Teams* (Hurst, 2002). This is a comprehensive review and should be examined by individuals with an interest in this area.

There are numerous systems for determining staffing levels and these can be grouped into five main categories:

1. Professional judgement (Telford) approach;
2. Nurses per occupied bed (also known as the top-down method);
3. Acuity-quality (also known as the bottom-up method);
4. Timed-task/activity approaches; and
5. Regression-based system. (Hurst, 2002:5)

**Professional Judgement**

The Telford consultative approach was first developed in 1979 and uses professional judgement to agree the most appropriate size and mix of ward nursing teams. Numerical assessments are transposed into grades of staff and whole time equivalents. This system was originally computerised by Altim Medical Systems Ltd but was superseded by the use of Criteria for Care by many organisations in the late 1980’s.

Professional judgement appears to be the foundation stone of nursing and midwifery workload assessment. Professional judgement provides a sound basis for decisions about nursing and midwifery staffing and skill mix, but it needs to be applied systematically and underpinned by the appropriate knowledge and skills. While the value of this approach is acknowledged, it needs to be used in conjunction with another tool to validate findings.

**Nurses per Occupied Bed**

“Top down” formulae such as nurses per occupied bed were used by regional health authorities in the UK. This system to determine budgets for nurse staffing in the National Health Service (NHS) calculated the average nurses per occupied bed. It took no account of differences in workload or variations in practice and is now considered out dated and should not be the sole basis for determining staffing levels (Hurst, 2002).

**Acuity-Quality**

The acuity-quality method takes into account patient dependency and nursing workload. Patients are categorised according to their level of ‘dependency’. Criteria for Care is the most well known of these methods (Ball et al, 1984). The attraction of this method is that it focuses on patient’s nursing needs. When combined with a quality index measure such as Monitor (Goldstone et al, 1983), it can also examine standards of care over a specified period of time.

The acuity-quality approach is presently the most inclusive method in meeting patient needs (Hurst, 2002). It is the preferred option in many organisations.

**Timed-Task**

The timed-task method is based on the frequency of nursing interventions required by patients. It is a good predictor of staffing requirements, as it takes account of all the patient variables impinging on nursing and midwifery time. Each patient’s direct nursing care needs for the day are recorded on a locally developed check-list of nursing interventions. The time required to complete the task is agreed
at local level and an allowance for related indirect care and rest time is added. GRASP is an example of a commercial system in this category.

**Regression-Based System**

Regression methods predict the required number of nurses for a given level of activity. It is used to determine statistically significant determinants of workload for each type of ward. Multiple regression analysis is used to derive a small number of variables that predict staff numbers and mix. An example of this includes theatre sessions, occupancy and case mix, complex dressings, escorts, etc.

**2.3 Skill Mix**

It is important that healthcare professionals and managers strive to identify the most effective mix of staff. The effective delivery of nursing and midwifery care is based on a team approach with healthcare staff employed to support and assist. The changes in nurse and midwifery education coupled with the recommendations from the *Report of the Commission on Nursing* (1998) have largely impacted on the introduction of skill mix. The DATH’s *Skill Mix Group Report* (2001) acknowledges that in many areas health care assistants have in part replaced student nurses (student nurses have been supernumerary since the introduction of the nursing diploma in 1996).

Skill mix is the balance between trained and untrained, qualified and unqualified and supervisory and operative staff within a service area (Needham 1996). It is clear therefore that for nursing and midwifery to govern its own practice, the appropriate mix of staff must be determined. Skill mix is a contentious issue. This is highlighted by McKenna (1995) who suggests that "it is not unreasonable for some people to question whether a rich skill mix of mostly qualified staff gives a higher quality of care than a cheaper skill mix of mostly unqualified staff" (p452).

The International Council of Nurses states that “there is no optimum skill mix, and attempts to reach the best possible standard must be an on-going and creative process” (ICN, 1994:27).

According to the *Guidance on Staffing of Children and Adolescent In-patient Psychiatry Units* (Royal College of Psychiatrists, 1999), quantifying skill mix and patient dependency can assist nurses in systematic decision-making, thereby enabling patient need to be met more efficiently and effectively.

Buchan et al (2000) suggest that skill mix is not a panacea for all the ills of an organisation, but in fact is a process for achieving change. This change must be considered in a skill mix cycle incorporating evaluation, identification of opportunities and barriers to change, as well as planning and implementation.

**2.4 Workload Assessment and Patient Dependency**

The process of estimating and meeting patients’ need for nursing and midwifery care is complex. Workload is of concern within the nursing and midwifery workforce, and has been cited as a reason for leaving the professions. The DATH’s (2000) report on nurse recruitment and retention ranked workload fourth out of nineteen categories for most important factors that lead nurses to consider leaving an organisation.

The criteria developed by the Royal College of Nursing (2000) for selecting a workload assessment method, suggest a problem-centred approach that is readily understood and acceptable to all those involved. This should produce relevant information as quickly and cheaply as possible, recognise the unavoidability of professional judgements being included, and should allow for open-ended inquiry.
Workload assessment is an attempt to predict the nursing and midwifery time and skills required to provide care. According to the ICN (2004b), the complexity of nursing means that not all aspects can be quantified, however, workload measurement can contribute to the process of professional reflection and recognition of nursing work.

There are two main methods of assessing workload in the UK: activity-based and dependency-based. Activity-based workload assessment involves an in-depth assessment of patient need and the nursing care required. Each activity has through observation, been allocated an allotted time to carry out the task. A skill level can also be assigned to each activity thereby providing skill mix information.

Dependency methods do not require such detailed information. It is a simple classification system that places the patient in one of four or five categories. Numbered one to four or five, the first category represents patients who care in the main for themselves while category four or five require high input and may be one to one nursing care.

Timing nursing activity only allows predictions to be based on current nursing practice. Nursing philosophies tend to revolve around the concept of the patient as an individual. This individuality is removed by a crude categorisation into dependency levels. Both approaches lend themselves to computerisation.

In the Irish context both methods of assessing workload are employed. These methods assist in the nursing and midwifery decision making process enabling estimates of the appropriate staffing level required. Arthur and James (1994) suggest that a perfect tool for measuring nursing workload is unlikely to exist.

2.5 International Experience
Issues in nursing and midwifery recruitment and retention are not unique to Ireland, they are indeed a global phenomenon. Other countries have experienced nursing and midwifery shortages for a number of years and in the past Irish nurses and midwives were sought to fill these vacancies. Many of these countries have developed nurse/midwife workforce planning systems and in some incidences have introduced legislation in an attempt to define safe staff ratios.

United States
In January 2000, California passed legislation on safe staffing ratios for registered nurses. It also places constraints on skill-mix changes and the use of support staff. There continues to be fundamental disagreement between stakeholders about how and what to measure.

Aiken et al (2002) suggest that the Californian legislation was motivated by an increasing hospital nurse shortage and the perception that lower nurse retention in hospital practice was related to burdensome workloads and high levels of job related burnout and job dissatisfaction. Higher emotional exhaustion and greater job satisfaction in nurses were strongly and significantly associated with patient-to-nurse ratios. Some of the main concerns in relation to minimum staffing levels are voiced by Spetz et al (2000). These concerns include that the minimum becomes the average staffing level as hospitals reduce their staffing to the lowest level required. California is facing chronic nurse shortages and to meet minimum staffing requirements mandatory overtime is increased.

Belgium
Belgian legislation in 1987 fixed basic staffing levels for hospital wards. The government introduced a tool to calculate nursing workload, the Nursing Minimum Data Collection, which gathers information about what nurses actually do for patients. There is a quarterly data collection exercise by ward nurses in every hospital recording how often they carry out patient care tasks. Comparisons are possible and may be used to argue for more resources.
Australia
The state of Victoria, Australia introduced nurse-patient ratios in December 2000 after industrial action by nurses. This legislation was supported by the Victoria Branch of Australia Nurses Federation. The ratios were based on current best practice. In 2004, nurses engaged in industrial action again and the settlement in May 2004 included greater flexibility under existing staffing ratios.

Scotland
The Scottish Executive Health Department published *Nursing and Midwifery: Workload and Workforce Planning Project* in 2004. This project detailed how the workforce is currently planned, highlighting good practice and areas in need of improvement. The project identified that professional judgement was currently the bedrock of nursing and midwifery workload and workforce planning in Scotland. The report highlighted the importance of using other tools to validate findings.

In summary twenty recommendations were made, which became the foundations for the development of a more systematic and standardised approach to nursing and midwifery workload and workforce planning. This work has relevance in the Irish context such as:

- Agreed action plans at local level to further recommendations of the report;
- Further development of appropriate indicators that allow accurate national comparisons of workload and workforce planning data; and
- Mandatory education and training of nursing and midwifery workload and workforce planning systems prior to the implementation of any new system.

2.6 Ireland
The implementation of the *Report of the Commission on Nursing (1998)* resulted in a number of key documents and policies being developed which has guided the development of nursing and midwifery over the last seven years. Of particular relevance to this project include:

National Reports
- *Effective Utilisation of Professional Skills of Nurses and Midwives: Report of the Working Group (2001)* examined opportunities for the increased use of care assistants and other non-nursing staff. One of the key recommendations included that Health Care Assistants (HCA's) be introduced as a member of the healthcare team to assist and support the nursing and midwifery function.
- *The Nursing and Midwifery Resource Final Report of the Steering Group: Towards Workforce Planning (2002:158)* identified actions that could assist in retaining nurses and midwives in practice. The themes were grouped into five main categories one of which was staffing. This category includes the following themes:
  - Staffing ratios, skills mix and workload measurement;
  - Flexibility in rostering; and
  - Health care assistants (HCA) and other support staff (for example, clerical assistants, porters).

Staffing ratios, skill mix and workload measurement was highlighted as a key retention action with 68.7% of workgroups proposing actions relating to this issue.

Other reports and projects that have been undertaken include:

Regional Reports
Since 1998 there have been a number of regional studies examining specific aspects of staffing levels, for example
• The South Western Area Health Board conducted an investigation into the level and appropriateness of nurse staffing and skill mix within extended care facilities for older people in the region.
• The Nursing and Midwifery Planning and Development Unit of the Western Health Board commissioned A Study of the Role and Workload of the Public Health Nurse in the Galway Community Care Area (2004).

National Projects
Examples of national projects include:

• A national review of nurse staffing in Emergency Departments has been undertaken. The Health Service Employers Agency (HSEA) commissioned Healthcare Consultancy Limited to carry out a detailed two stage review of the nurse staffing levels required in 36 dedicated Emergency Departments. This resulted in a draft report been launched in October 2003 and is currently being reviewed.
• A national project namely the PPARS (Personnel, Payroll and Related Systems) project commenced in the late 1990’s. PPARS is the Human Resource Information System of the Irish Health Service. This project is a joint initiative between the Irish Health Agencies and a number of Voluntary Hospitals and is being run under the work programme of the Health Boards Executive. PPARS utilises information and communications technology to support the provision and development of human resource management in the Irish health services. This system is designed to link together different facets of an organisation's operational activities such as human resources and finance.

2.6.1 Health Service Reform Programme
A more recent challenge to the Irish Health Service is its own reform programme. The is the biggest change process ever undertaken in the state and represents the culmination of a series of projects undertaken in the context of Quality and Fairness: A Health System for You - Health Strategy (2001).

This reform programme brings together the work of the Commission on Financial Management and Control Systems in the Health Service (2003), the Audit of Structures and Functions in the Health System (2003), and the Report of the National Task Force on Medical Staffing (Hanly Report) (2003). It also draws together and establishes an integrated platform for the reform of the acute hospital system, the implementation of primary care and health information strategies and a wide range of processes which influence the degree to which the system can respond quickly and effectively to the ever-increasing demand on its infrastructure and other resources.

Nursing and midwifery are central to the successful implementation of the reform programme. The reform programme presents nursing and midwifery with many challenges and opportunities. There is considerable potential for nurses and midwives to enhance the development of quality patient care. One of the main challenges for nursing and midwifery include expanded roles within the Scope of Nursing and Midwifery Practice Framework (An Bord Altranais, 2000). These challenges are discussed in The Challenge for Nursing and Midwifery: A Discussion Paper (2003).

It is vital that the development of a health information system is integrated into the agenda for change identified in the Health Strategy which recommends that the:

• availability of appropriate, comprehensive, high quality, accessible and timely information to plan and to organize the health system, and investment to be made in national health information systems; and
• development of the electronic patient and health records to enhance the quality and safety of patient care.

As stated in the Health Strategy, “Information plays a central role in supporting strategic goals and in underpinning the principles of the Health Strategy. It must not be seen merely as an add-on” (Department of Health and Children, 2001:132).

The primary aim of the Health Information: A National Strategy (2004) is “to recommend the necessary actions to rectify present deficiencies in health information systems and to put in place the frameworks to ensure the optimal development and utilisation of health information” (p7). This strategy guides the development of a co-ordinated and integrated health information system over the next 5-7 years. It is a blueprint for the collection and analysis of health data and the development of systems for interpreting this data into the overall planning of resources. This highlights the issue that nursing and midwifery IT requirements cannot be examined in a vacuum. The lack of funding for IT resources within the healthcare sector has been acknowledged and measures have been put in place, such as, the increased availability of computers and access to the internet at ward level. Therefore it is essential for healthcare workers that nursing and midwifery IT requirements are acknowledged at a national level.

2.7 Working Toward the Future

In light of the current health reforms in the Irish healthcare system and the changing demographics of Irish society there is a need to determine an appropriate number of nursing and midwifery staff, including support staff. Methods selected must be adaptable to the local situation and according to Arthur and James (1994), this should facilitate rather than dictate decisions on nursing and midwifery staffing requirements.

It is important to review systems that have been already developed and how other countries have adapted them to suit their healthcare needs. Determining nursing and midwifery staffing levels remains a contentious issue. Other countries have approached this issue in different ways including the introduction of legislation; the use of contemporary planning systems based on professional judgement, patient dependency and acuity and by using dedicated computer based applications to tackle the issue. All of these methods have their own advantages and disadvantages with no one system that would fulfil all of the requirements in Irish nursing and midwifery. Off the shelf systems can become just a ‘numbers game’ rather a mechanism to support clinical decision making (ICN, 2004a).
CHAPTER THREE

THE IRISH HEALTH CARE SETTING

3.1 Introduction
This report second term of reference centred on identifying and evaluating current systems being utilised in the Irish healthcare setting and to identify areas of best practice. A number of presentations by leading practitioners in this field were made to the group illustrating areas of best practice.

Many organisations do not have formal systems for determining staffing levels, therefore establishing a national picture was an essential first step. The Working Group agreed for a questionnaire (Appendix One) to be developed and circulated to all hospitals nationwide. The workforce planners of the NMPDU’s facilitated this process. The results of the questionnaire demonstrated that there are two main contemporary workload systems used in nursing, that is Criteria for Care and GRASP; and in midwifery Birthrate Plus.

The questionnaire was further supplemented by site visits to view these systems working and how they impact on nursing and midwifery care.

3.2 Definition of Skill Mix
The first term of reference charged the Working Group to agree a common understanding of the term skill mix. For the purpose of the work of this project the definition below was agreed as

The number and mix of staff within the nursing/midwifery team, who have the appropriate skills and knowledge to deliver quality person centred nursing care.

(adapted from the Royal College of Nursing 1992 definition)

3.3 Contemporary Workforce Planning Systems Utilised in Irish Nursing and Midwifery Wards/Units
According to the information gathered for the project the main contemporary nursing and midwifery workforce planning systems currently being utilised are Criteria for Care, GRASP and Birthrate Plus. Each of these systems is outlined below.

- **Criteria for Care**
Criteria for Care is the name given to the model and manual describing a combined tool used by the North West Nurse Staffing Levels Project group in the UK in 1984 to undertake a skill mix study. It consisted of a tool which provided for the analysis of current workload, the deployment of nursing staff and a measure of the amount and quality of patient care being achieved.

- **GRASP**
GRASP is an acronym for the surname of the authors of the base research study, Grace Reynolds Application and Study of PETO. GRASP is an objective method of measuring nursing workload. It examines the individual needs of each patient and therefore is specific to each ward. It is a resource management system. GRASP methodology quantifies patient care and translates it into hours. Data can be collected manually however GRASP also has an automated, PC-based method of data collection.
GRASP MIStro software produces various reports, including patient days, staff utilisation and quality outcome indicators. This information can then be compared to staff utilisation and hours of required care per patient per day. This comparison demonstrates the impact staffing has on patient care.

- **Birthrate Plus**

Birthrate Plus is a comprehensive framework for workforce planning and decision making specifically for midwifery services. The number of midwives required to provide care is dependent upon local workload activity, case mix and pattern of service provision. It has been recommended by both Royal College of Obstetricians and Gynaecologists and the Royal College of Midwifery (1999). Birthrate Plus calculates both the midwifery and non-midwifery staff required to provide care to a specific group of women and their babies. It is the most widely used system for classifying women and babies according to their needs, and uses clinical outcome data to calculate the number of midwives required. Birthrate Plus has been utilised in UK maternity units since 1988. It also facilitates a review of community services and takes account of home births and transfers in and out of the areas.

3.4 Presentations

The Working Group had four presentations on various aspects of workload measurement, skill mix and patient dependency.

Mr. Keith Hurst from the Nuffield Institute for Health, Leeds University has worked and published extensively on selecting and applying methods for estimating the size and mix of nursing teams. He made a presentation at the first meeting of the Working Group. The Working Group agreed that Hurst’s work commissioned by the NHS in the UK was an appropriate foundation on which to build this project.

Mr Michael Shannon, Director of Nursing at Letterkenny General Hospital shared his research to date. He is currently undertaking research to examine the accuracy or inconstancy of medical and surgical nursing skill requirements in Ireland.

Ms. Rosaleen Murnane, Nurse Co-ordinator, Computer, Management and Information Services, from the Mater Misericordiae University Hospital, Dublin, gave a presentation on an automated integrated nursing information system (INIS) and the experience of using this system.

Ms. Evelyn McGonnigle, Assistant Director of Nursing, St.Vincent’s Hospital, Fairview gave a presentation on GRASP and how it was utilised in a mental health setting.

3.5 Questionnaire

The questionnaire was complied by a sub group of the workforce planners (Appendix Two) from the NMPDU’S. The questionnaire was distributed to all hospitals in each health board area. The response rate was 56.3%. Figure 1 illustrates a summary of the systems utilised in the Irish healthcare system.

![Figure 1: Summary of systems used in the Irish Healthcare](image-url)
The data analysis indicates that 46% of respondents use a system based on historical staffing levels and 22% use professional judgement. Combining these two methods represents 68% of staffing systems being used by respondents. While the two methods above are viewed as having some benefit, others are dissatisfied and argue for a more standardised evidence based approach.

A national average of 10.5% of respondents indicated that their system was computerised. This information identified organisations that had an established system and became the basis for the second phase of data collection. Of this 10.5%, only 1.8% had evaluated their system. This represents challenges for the Working Group and indicated that an Irish evaluation should be considered.

According to the results of the questionnaire, Intellectual Disability Nursing is the only discipline which has not used a contemporary nursing workforce planning system.

An analysis of the questionnaire identified three main issues:

- The need to examine staffing systems from a national perspective.
- There is a diversity of services provided by nurses and midwives requiring different models for different sectors.
- Agreement on staffing systems presents major challenges for managers, healthcare professionals, policy makers and workforce planners.

3.6 Site Visits
A number of sites had indicated on the questionnaire that they had a dedicated system in place for determining nursing staff levels. However, when contacted by telephone it became apparent that a number had systems in place a few years ago which are no longer operational. Others had manual systems supported by excel spread sheets where the rostering of staff was centralised.

Five hospital site visits were conducted (Appendix Four). The hospitals selected had invested time and energy in determining their staffing levels. Each contact person was asked a number of questions around the principles underpinning their system. These site visits are summarised in Appendix Five.

- **Mater Misericordiae University Hospital**
The Mater Misericordiae University Hospital is currently developing an automated Integrated Nursing Information System (INIS), to provide scope for the integration of the information needs and simultaneously support the workflow and nurses’ decision-making processes. The aim of INIS is to facilitate the delivery of optimum patient care. There are three components to INIS incorporating i) patient dependency/classification; ii) nurse rostering; and iii) nursing documentation.

In 1995, the patient dependency/classification system based on acuity/quality from the original ‘Criteria for Care’ methodology was introduced manually in all wards. This aimed to provide a greater insight into the workload of a specific ward by providing a) averages of the numbers of patients in each dependency category; and b) the percentage distribution of each category within the normal bed occupancy figures of that ward. The system was computerised as part of the main Hospital Information System (HIS) in 1997.

INIS was further developed during 2000 with the commencement of an automated nurse rostering system which has been implemented in all wards, Operating Theatres and the Emergency Department. In addition, it is integrated with the patient dependency/classification system.
The amalgamation of the three systems (HIS, patient dependency/classification and nurse rostering) provides readily available information in relation to the patient dependency/classification in each of the five dependency categories. It also supplies detailed information regarding the composition of the nursing team and the competencies of the nurses caring for the patients in each of these categories. This ‘real-time’ information is used by senior Nurse Managers on a day-to-day basis and provides the baseline for future direct/indirect analysis of nursing work in meeting patient needs, and will also assist with measuring quality.

The third and final component of the INIS will be the automation of nursing documentation. It is intended that the INIS will become part of the overall Electronic Patient Record (EPR).

- **Beaumont Hospital**
  The Nursing Dependency System (NDS) was developed in Beaumont Hospital in 1999. It is a workload measurement tool based on the validated “Criteria for Care” model. The system provides the nursing division with a structured method of recording, measuring, analysing and reporting the patient workload across the hospital. The system captures a permanent electronic record of the patient’s workload measurements. Information on each patient can be collated to ensure maximum data collection is achieved. The reporting facilities on the NDS provide a comprehensive overview of each ward or unit’s workload. Each patient’s activities of living are categorised in order to measure the workload. The workload measurement can be assessed three times daily over a 24-hour cycle.

The critical care areas in Beaumont Hospital are using a different system namely System of Patient Related Activity (SOPRA). This system is a stand alone system recommended by the Department of Health (UK) in “Comprehensive Critical Care. A Review of Adult Critical Care Services” (2000).

- **The Adelaide and Meath Hospital, incorporating the National Children’s Hospital (AMNCH)**
  The AMNCH began a project examining nursing dependency systems and skill mix within the hospital. Criteria for Care was recognised as the foremost dependency-based workload measurement system and could incorporate a quality care measure component (Monitor). AMNCH had used Monitor previously for various audits within the nursing service. Monitor is an established nursing index measuring quality. Its emphasis is on gaining the patient’s views and opinions of the nursing care they have experienced.

  In 2002, AMNCH adapted the dependency system developed by Beaumont Hospital which is based on Criteria for Care. Beaumont Hospital has an open door policy on IT developments and supported the implementation of NDS. This open door policy is to be commended, as it assists organisations and is cost effective. AMNCH has taken a further step by integrating NDS with the quality indicator Monitor 2000.

- **Cork University Hospital**
  Cork University Hospital piloted the GRASP system for three years. The system was manual and very labour intensive especially during the establishment phase. After three years the system was implemented on fourteen wards. The data gathered from the project was valuable and the wards viewed it as a useful exercise, however it required on-going funding and development and ultimately the system was discontinued. Some of the main benefits of this method are the built-in quality indicators and peer review which is very much the essence of today’s health service accreditation scheme and also an improvement in nursing documentation. The data gathered enabled nurse managers to negotiate for further nursing resources based on this information. To ensure this package is put to optimum use computerisation is essential.
• **St. Vincent’s Hospital, Fairview**

St. Vincent’s Hospital Fairview has introduced GRASP on all wards. Data was collected manually at ward level and then centrally input onto the GRASP software package system. Analysis of data was very time consuming and the project co-ordinator acknowledged the need for individual computers at ward level.

The project lasted approximately three years before it was discontinued. It was hugely beneficial in gathering data and auditing quality of patient care. The main reason for its discontinuation was the perception that the data collection had become a paper exercise and was not impacting on the care delivered to patients.

### 3.7 Developments at Local Level

• **Our Lady’s Hospital for Sick Children**

Our Lady’s Hospital for Sick Children produced a report in 2004 analysing nurse staffing levels and patient dependencies in wards, accident and emergency and out-patient departments.

The nursing dependency ward analysis was carried out utilising the Nursing Workforce Planning Software devised by Dr. Keith Hurst. This analysis of patient/nurse dependency level was undertaken during a twenty-four hour period in February 2004. The accident and emergency staffing was reviewed utilising the Healthcare Consultancy Report. Finally, a review of staffing in the out-patients department was undertaken.

The report highlights the need for further in-depth analysis of paediatric staffing as identified in “A Bridge to the Future: Nursing Standards, Education and Workforce Planning in Paediatric Intensive Care” (Department of Health, 1997).

• **Rotunda Hospital**

In their response to the questionnaire, the Rotunda Hospital, Dublin indicated they were assessing the use of the Birthrate Plus tool to measure their staffing and workload. The aim of their study was to clearly identify the levels of midwifery and non-midwifery care delivered in the hospital, in order to estimate the necessary resources to provide a safe service at a quality standard. Their study was completed in late 2004.

A project midwife was appointed for the six month duration of the project. Birthrate Plus classifies mothers and babies into five main categories and the midwife responsible for the care of each woman completes a score sheet before transfer to the ward. At the end of each month the following data was produced:

- The number and case mix of clients; and
- Mean time in the delivery suite per category.

The daily mean number of cases per category was calculated together with the mean time per category from the collated data. At the end of the six months, sufficient data was available to ensure robust information was used in calculating the W.T.E. complement required to provide care and to provide for future workforce and hospital strategic planning.

The Rotunda Hospital project using Birthrate Plus resulted in evidence based information which can inform both midwifery and hospital management of service requirements.
3.8 Conclusion

Throughout the consultation process it was widely acknowledged that examining systems to determine staffing levels is a welcomed development and one that is central to the future development of nursing and midwifery services. The need for national guidelines to assist organisations in nursing and midwifery workforce planning was recognised and this was confirmed in the results of the questionnaire and site visits.

Responses to the questionnaire highlighted the extensive knowledge base that individual organisations have in relation to this topic yet demonstrated an ad hoc approach. It is a recommendation of this report that this knowledge base be pooled to develop an easily accessed national database on this area. Professional judgement and historical staffing levels accounted for 68% of respondent’s methods of determining staffing levels. This figure demonstrates the increasing need to introduce validated and more contemporary methods of determining staff levels. This will present a future challenge for the Irish healthcare system.

The literature demonstrated that there are numerous methods for determining staffing levels but it is essential that these methods can be adapted to suit the Irish healthcare system. Many of the UK findings are applicable, but should not be adopted without further research. The differences between the Irish and UK healthcare system include: gradings within nursing and midwifery staff, roles of ‘support’ staff, the established expanded roles of nurses and midwives and differences in the standard working week.

Of the five hospitals visited, two approaches were predominately utilised, that is GRASP and adaptations of Criteria for Care. Both approaches appeared to meet the individual organisational needs but also demonstrated the need for ongoing resources and development. Both sites using GRASP had discontinued their projects due to a lack of on-going funding and resources. They found that GRASP generated valuable information which influenced the decision making process at senior levels but at ward level some staff believed it had little impact on their day to day work.

The gathering of data was a valuable exercise and the principles underpinning many of the methods will assist managers in deciding on the appropriate system to determine staffing levels. The overall consensus of the Working Group was that further research in the form of a pilot study is required to ensure a suitable system/s is chosen or modified to meet the needs of the Irish healthcare system.
4.1 Introduction
Following the deliberations and findings of the Working Group in the previous chapters, it was agreed that no one method could be recommended as a ‘national tool’ due to the diversity and complexity of the Irish health service. However, the consensus view of the Working Group was that a number of principles should be formulated to act as a guide when choosing an appropriate method for determining staffing levels. The main principles are outlined in this chapter.

4.2 Skill Mix
The effective utilisation of professional skills is the key to efficient and effective working of the health service. The Working Group agreed that skill mix was a central tenant of the project. Therefore it was necessary to have a common understanding of the term skill mix in relation to the project.

The Working Group identified the need for a coherent and planned approach to skill mix within the Irish healthcare system. Developing an approach to skill mix requires a broader vision of resource planning, to enable the issues and methods to be mapped out. Skill mix reviews must be linked to other organisational developments and initiatives.

For the purpose of the work of this project, the following definition of the term skill mix was agreed.

The number and mix of staff within the nursing/midwifery team, who have the appropriate skills and knowledge to deliver quality person centred nursing care.

(adapted from the Royal College of Nursing 1992 definition)

This definition was developed within the scope of paragraph 7.63 of the Report of the Commission on Nursing (1998). This report acknowledges that this definition may need to be reviewed in the next phase of the project as a result of the implementation the European Working Time Directive (EWTD).

Skill mix is often characterised as being cost driven but there are other reasons why examining skill mix is of major importance in Irish healthcare services:

- Effective utilisation of nursing and midwifery skills;
- Changing/development of roles;
- Competency based training of staff;
- Technological innovations;
- Recruitment and retention;
- Service planning;
- European Working Time Directive;
- Health service reform programme; and
- A global shortage of nursing and midwifery staff.
Recommendation:
- The method/system for determining staffing levels must encompass appropriate skill mix.

4.3 Workload Assessment/Patient Dependency
The ultimate objective in establishing workload measurement/patient dependency is to ensure that there are adequate staffing levels to provide quality patient care and a safe environment for patients and staff. There will be a requirement to incorporate flexibility of staffing levels to meet patients/client need. Professional judgement is at the heart of nursing and midwifery care and a range of factors influence decision-making. Therefore, no one definitive and objective measure of nursing and midwifery workload exists. However workload assessment/patient dependency tools can assist and support nurses and midwives to adopt a more objective and systematic approach to their work.

Recommendation:
- A workload assessment/patient dependency system should be used to identify staffing establishment (hospital, unit or change of function) and ongoing staffing requirements. The frequency, with which workload assessment/patient dependency needs to be undertaken, will vary depending on the organisation and patient/client requirements.

4.4 Quality Indicators
Methods of assessing workload cannot be divorced from quality measurement. Quality in healthcare services is neither a simple nor an apolitical issue. Quality is a complex concept and how it is defined and measured has important consequences for health services. The International Organization for Standardization (ISO) defines quality as:

“Quality is the totality of features and characteristics of a product or services that bears on its ability to satisfy given needs”.

Professionals such as nurses and midwives have an absolute concept of quality that is a part of their value system and based upon their education and experience. Managerial concepts of quality may be influenced by other organisational concerns such as the common pursuit of efficiency and effectiveness. The challenge is to marry these two differing perceptions in the pursuit of achieving a quality service. Management have a key role in ensuring the success and continuance of quality initiatives. This highlights the growing need for nurses and midwives to have reliable and valid information enabling them to demonstrate how nursing and midwifery resources affect the quality of patient care.

The GRASP system has an in built quality indicator. The individual needs of each patient is assessed and recorded. A check list approach verifies that tailor-made care has been delivered. Random peer review acts as an audit ensuring that a high standard of care is maintained. Criteria for Care is compatible with the Monitor audit tool system which is an established nursing index measuring quality.

Recommendation:
- Quality indicators must be incorporated into the method/system for determining staffing levels. Nurses and midwives must have reliable and valid information enabling them to demonstrate how nursing and midwifery resources affect the quality of patient care.

4.5 Rostering
Regardless of the method used to record workload and quality of patient care, the importance of scheduling staff on a day-to-day basis cannot be over emphasised. The requirement for flexible staffing
patterns to meet the demands of patient care is increasing and often requires a move away from traditional shifts. Needleman et al (2001) demonstrated that staffing levels affect patient outcomes. This highlights the importance of rostering capabilities. Creating rosters in order to deliver person-centred care, while simultaneously maintaining an appropriate work/life balance is an important part of recognising professional autonomy.

Staff rosters require skills in communication, delegation and planning. The Office for Health Management recognised the need for guidance in the area of rostering and has sponsored the development of a facilitator’s guide based upon workshops held in relation to nursing and midwifery rostering (available from www.tohm.ie/publications/). The title of this initiative is “Modernising Staff Rostering” and its implementation is being facilitated by the NMPDUs.

**Recommendations:**
- The rostering system should take cognisance of patient need as well as the work life balance of staff.
- Staff rostering should involve and include all staff.
- The development of skills in the methods of roster development should be incorporated in nursing and midwifery education programmes, as appropriate.

**4.6 The Environment**
Patients/clients are cared for in a variety of care settings. They should be cared for in the appropriate environment to enable nurses and midwives to provide individualised care. The average length of hospital stay for patients is reducing and this coupled with increasing acuity and specialisation will impact on nursing and midwifery workload.

**Recommendation:**
- When determining staffing levels, it is essential that the various environments in which nurses and midwives work is taken into account.

**4.7 Education and Training**
The education and training of nursing and midwifery staff is essential for the effective implementation of any new initiative. Staff must be competent and confident in their use of workload assessment/patient dependency methods to ensure that accurate data is gathered and interpreted. Computer literacy and informatics training at all levels of nurse and midwifery education should be supported.

**Recommendations:**
- An in-service programme to support the implementation of the chosen workload assessment/patient dependency methodology must be provided at local level.
- Appropriate computer literacy and informatics training at all levels of nursing and midwifery education should be supported.

**4.8 Information Management and Technology**
Accurate and accessible health information is a well-accepted requirement of good healthcare. In recognition of this, the HSE has agreed to the national role out of state-of-the-art software (iSoft). The aim of this software is to give hospitals instant, nationwide access to electronic patient records and seamless information sharing. The national implementation of this software will impact on all health service users and employees including nurses and midwives.
IT developments in nursing and midwifery must be inline with current government policy in order to be effective and sustainable (Case et al 2002). It is essential that nurses and midwives are involved in the decision making about IT at national, regional and local levels. This will ensure that the benefits associated with IT in nursing and midwifery will be fully realised. When nurses and midwives are involved in IT, it can make a positive difference in the patient care environment.

Recommendations:
- IT developments in nursing and midwifery must be compatible with current government policy.
- Nurses and midwives must be involved at all stages in the decision-making about nursing and midwifery IT developments at national, regional and local levels.

4.9 System Integration
Systems used for the measurement of patient dependency and workload if automated should be fully compatible with other IT systems within an organisation. As Electronic Health Records are developed and quality initiatives are undertaken, IT will be an important asset in terms of supporting nurses and midwives in their overall contribution to healthcare. IT integration at the appropriate levels should facilitate ready access to data required by managers for the planning, measuring, monitoring and managing of the nursing and midwifery services.

Recommendation:
- Where the system/method for determining staffing levels is automated it must integrate with the organisations current IT system.

4.10 Conclusion
This chapter outlined the principles that should underpin contemporary nursing and midwifery workload planning systems. The principles outlined will guide organisations in choosing an appropriate system for their organisation since as illustrated there is no one system to suit all. The Working Group formulated these principles as a result of their deliberations, the literature review and the project itself.
5.1 Conclusion
With the increasing emphasis on appropriate and safe levels of nursing and midwifery staff, identifying resource requirements based only on numbers of patients, without taking into account differences in acuity among patients, raises the potential for inappropriate staffing. Systems that describe and quantify nursing and midwifery workload are critical for determining and justifying resource requirements. Such systems can have value for the organisation as a whole, but more importantly for patients and for nursing and midwifery practice. The ultimate goal of providing safe, high quality patient care requires staffing and resource allocation decisions based on systems that address patient need for nursing/midwifery care that can not be based on historical staffing levels alone.

The literature review demonstrated that there is no single solution to the question of what constitutes the appropriate staffing level. Buchan (2001) states that research has demonstrated that different systems applied in the same care environment will produce different answers.

Appropriate skill mix is required to deliver effective and appropriate patient care. This project is not an exercise to reduce the numbers of nurses or midwives employed in the service but to ensure the effective utilisation of the professional skills of nurses and midwives in the delivery of quality healthcare.

“High-quality information lies at the heart of all good decisions concerning health” (Health Information: A National Strategy, 2004:15). Nurses and midwives are constantly being challenged and need access to timely information to assist them in making decisions. Safe and effective care is dependent upon staff being equipped to deliver high quality care.

The value of systematic approaches is that they promote the efficient and effective use of nursing and midwifery resources by providing an opportunity to regularly review and, if necessary, challenge nursing and midwifery practice.

5.2 Recommendations of the Working Group
Recommendations in relation to the principles:

- The method/system for determining staffing levels must encompass appropriate skill mix.
- A workload assessment/patient dependency system should be used to identify staffing establishment (hospital, unit or change of function) and ongoing staffing requirements. The frequency, with which workload assessment/patient dependency needs to be undertaken, will vary depending on the organisation and patient/client requirements.
- Quality indicators must be incorporated into the method/system for determining staffing levels. Nurses and midwives must have reliable and valid information enabling them to demonstrate how nursing and midwifery resources affect the quality of patient care.
- The rostering system should take cognisance of patient need as well as the work life balance of staff.
- Staff rostering should involve and include all staff.
• The development of skills in the methods of roster development should be incorporated in nursing and midwifery education programmes, as appropriate.

• When determining staffing levels, it is essential that the various environments in which nurses and midwives work is taken into account.

• An in-service programme to support the implementation of the chosen workload assessment/patient dependency methodology must be provided at local level.

• Appropriate, computer literacy and informatics training at all levels of nursing and midwifery education should be supported.

• IT developments in nursing and midwifery must be compatible with current government policy.

• Nurses and midwives must be involved in the decision-making at all stages about nursing and midwifery IT developments at national, regional and local levels.

• Where the system/method for determining staffing levels is automated it must integrate with the organisations current IT system.

The Future

The project reflects the current situation in regard to determining staffing levels in the Irish healthcare system. The need for guidelines to assist nursing and midwifery managers has been long acknowledged. This project is just the first step in developing methods to determine staffing levels in Ireland and further work will be required.

The Working Group makes the following recommendations as priority:

• A pilot study utilising the principles identified in this report should be undertaken across a number of care settings, taking account of geographic spread.

• In light of the outcome of the pilot study, The Health Service Executive should ensure that systematic approaches are applied to nursing and midwifery workload and workforce planning across Ireland.

• Data from individual organisations should be collated at national level, leading to the creation of a national database on nursing and midwifery workload to inform future workforce planning.
REFERENCES


BIBLIOGRAPHY


APPENDIX ONE

WORKING GROUP MEMBERSHIP

Mary McCarthy (Chair)  Chief Nursing Officer, Nursing Policy Division, DoHC
Jim Browne  Director NMPDU, North Western Area, HSE
Eamonn Donnelly  IMPACT
Maura Donovan  CEO, St Stewarts Hospital, Palmerstown
Mary Durkin  Nursing Representative, SIPTU
Jim Fleming  Human Resource Manager, Mid-Western Area of the HSE
Eilish Hardiman  Director of Nursing, St. James’s Hospital
Mary Hehir  Service Health Executive-Employers Agency
Mary Higgins  Midwifery Representative, INO
Annette Kennedy  Director for Professional Development, INO
Eugene Lennon  Assistant Principal, Nursing Policy Division, DoHC
Julie Ling  Nurse Advisor, Nursing Policy Division DoHC
Fiona McMahon  National Co-ordinator for Clinical Placements, Health
              Service Executive - Employer Representative Division
Rosaleen Murnane  Nurse Co-ordinator Computer, Management and Information
              Services, Mater Misericordiae University Hospital
Seamus Murphy  Industrial Relations Officer, Psychiatric Nurse’s Association
Tracy O’Beirne  Nurse Advisor, Nursing Policy Division, DoHC
Kay O’Sullivan  Director of Nursing, Cork University Hospital
Michael Shannon  Director of Nursing, Letterkenny General Hospital
Ray Sweeney  Director of Nursing, Galway Mental Health Services
Cormac Walsh  Nurse Advisor, Nursing Policy Division, DoHC
APPENDIX TWO

SITE VISIT QUESTIONNAIRE

To be completed by the Director of Nursing/ Midwifery or appropriate person responsible for staffing analysis systems within the organisation.

The purpose of this questionnaire is to identify and gather information about the current systems in use for determining nursing/midwifery staffing levels (past and present) in the Irish health care setting.

1a. Name of Hospital / Organisation:

1b. Type of Service Provided, Please tick appropriately.

- General
- Care of the Elderly
- Maternity
- Intellectual Disability
- Mental Health/Psychiatric
- Paediatrics
- Palliative Care

1c. Hospital Band, Please tick appropriately

[ ] 1  [ ] 2  [ ] 3  [ ] 4  [ ] 5

2. What system do you presently use to assist you in identifying the nursing/midwifery staffing levels in your organisation? Please tick appropriately (more than one if necessary).

<table>
<thead>
<tr>
<th>Common Methods for Workforce Planning</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>1 Professional Judgement eg Telford</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Nurses per occupied bed eg Dr. Foster</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Acuity-quality eg Criteria for care</td>
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<td></td>
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<tr>
<td>4 Timed-Task eg GRASP</td>
<td></td>
<td></td>
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<tr>
<td>5 Regression eg Teamwork</td>
<td></td>
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</tr>
<tr>
<td>6 Birthrate Plus</td>
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<tr>
<td>7 System based on historical staffing levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 RCN Assessment Tool for nursing older people</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Other, please name:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Is your system computerised?

Circle your response:

☐ Yes  ☐ No

4. Why did your organisation choose to use this system?

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

5. What strengths have you found with this system?

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

6. What weaknesses have you found with this system?

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

7a. Has your organisation ever used any other system to determine nursing/midwifery staffing levels?

Circle your response:

☐ Yes  ☐ No

7b. If yes, please provide further information

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________
7c. Please explain the reason why you decided to change from this system?
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

8a. Have you ever evaluated the effectiveness of your system?

☐ Yes  ☐ No

8b. If Yes please describe how this was carried out. Please supply supporting documentation if applicable)
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

9. Does your system determine the staffing levels for all the nursing team ie including support staff such as health care assistants?

☐ Yes  ☐ No

10. Any other comments?
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Name of person who completed form: ________________________________________________

Contact number: ___________________________________________________________________

Please return the completed questionnaire as soon as possible to:

Email: ___________________________________________________________________________

Tel No: __________________________________________________________________________

Fax No: __________________________________________________________________________

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE
### APPENDIX THREE

**WORKFORCE PLANNERS SUB-GROUP**

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eilish Croke (Chair)</td>
<td>NMPDU, Midland Health Board</td>
</tr>
<tr>
<td>Mary Frances O’Reilly</td>
<td>NMPDU, Western Health Board</td>
</tr>
<tr>
<td>Steve Pitman</td>
<td>NMPDU, Eastern Regional Health Authority</td>
</tr>
<tr>
<td>Anne Gallen</td>
<td>NMPDU, North Western Health Board</td>
</tr>
<tr>
<td>Tracy O’Beirne</td>
<td>Department of Health and Children</td>
</tr>
</tbody>
</table>
APPENDIX FOUR

LIST OF SITE VISITS AND CONTACTS

Mater Misericordiae University Hospital: Rosaleen Murnane, Nurse Co-ordinator, Computer, Management and Information Services.

Beaumont Hospital: Ide O’Shaughnessy, Information Technology Nurse Manager.

Adelaide and Meath Hospital incorporating the National Children’s Hospital: Sibeal Carolan, Nurse Practice Development Co-ordinator.

Cork University Hospital: June Mills, previously the co-ordinator of GRASP.

St. Vincent’s Hospital, Fairview: Ms. Evelyn McGonnigle, Assistant Director of Nursing (previously the co-ordinator of GRASP).
# Appendix 5

## Table of Results from Site Visits

<table>
<thead>
<tr>
<th>Principle</th>
<th>Mater</th>
<th>Beaumont</th>
<th>AMNCH</th>
<th>CUH</th>
<th>St. Vincent’s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name of System</strong></td>
<td>Integrated nursing information system - VasTech - Criteria for Care</td>
<td>Nurse Dependency System – Criteria for Care</td>
<td>Nurse Dependency System – Criteria for Care</td>
<td>Timed Task GRASP</td>
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</tr>
<tr>
<td><strong>Computerised</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Manual at ward level Centrally computerised</td>
</tr>
<tr>
<td><strong>Current Status</strong></td>
<td>Established at ward level developments continue</td>
<td>Continuing developments</td>
<td>Relatively new continuing developments</td>
<td>Project for three years established in 14 wards</td>
<td>Project for three years has since lapsed</td>
</tr>
<tr>
<td><strong>Workload Assessment</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Skill Mix</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Potentially Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Generate Rosters</strong></td>
<td>Yes</td>
<td>Yes but not rule based</td>
<td>Potentially Yes</td>
<td>Potentially Yes</td>
<td>Potentially Yes</td>
</tr>
<tr>
<td><strong>Patient Dependency</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Quality Indicator</strong></td>
<td>Potentially Yes</td>
<td>Potentially Yes</td>
<td>Yes Quasar with Monitor</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Integrate with Other Systems</strong></td>
<td>Yes</td>
<td>Potentially Yes</td>
<td>Potentially Yes long-term</td>
<td>Potentially Yes</td>
<td>Potentially Yes</td>
</tr>
<tr>
<td><strong>Consider the Health Environment</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Potentially Yes</td>
<td>Potentially Yes</td>
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<tr>
<td>Cost Effectiveness</td>
<td>Yes</td>
<td>Developed in-house ICT support required</td>
<td>Yes</td>
<td>Buy package approx 15,000 euros, yearly fee approx 1500 euros</td>
<td>euros, yearly fee</td>
</tr>
<tr>
<td>Time commitment</td>
<td>Yes 8 second per patient 1 full time nurses</td>
<td>Yes mainly for development and education 2 full-time nurses</td>
<td>3 minutes for 6 patients</td>
<td>Time consuming to set up</td>
<td>Yes plus inputting data centrally One nurse co ordinator and one clerical</td>
</tr>
<tr>
<td>Training</td>
<td>Yes there is a requirement</td>
<td>Yes ward based training</td>
<td>Orientation course and ongoing training</td>
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<td></td>
</tr>
<tr>
<td>ICT Requirements</td>
<td>Yes</td>
<td>Access to computers, recommend hand held records, need support</td>
<td>More user friendly and less time if computerised</td>
<td>Central computer but would advise ward based computers</td>
<td></td>
</tr>
</tbody>
</table>
Report of the Working Group to:

examine the development of appropriate systems to determine nursing and midwifery staffing levels

September 2005