

# Review of Nurses and Midwives in the Prescribing and Administration of Medicinal Products

## Final Report

JUNE 2005



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# Foreword

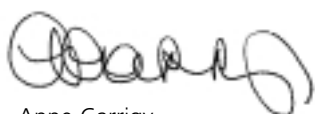
As Chairperson of the *Review of Nurses and Midwives in the Prescribing and Administration of Medicinal Products* I am pleased to present the Final Report of the Review. Previous consultative exercises of the Commission on Nursing and the Scope of Nursing and Midwifery Practice illustrated that the nursing and midwifery professions experienced challenges in their current roles with medication management in their provision of care. The possibility for enhanced responsibility and involvement of nurses and midwives in medication management allowing for improvements in patient care emerged from these reports. It was apparent that expansion of practice in this area globally demonstrated appropriate and effective utilisation of nurses and midwives competencies and skills. Positive outcomes for patients in relation to satisfaction, greater accessibility for treatment and increased convenience were appearing in the research studies on the subject of nurse and midwife prescribing. To this end a dedicated review of this critical activity was conducted.

The Review has been a joint endeavour between An Bord Altranais and the National Council for the Professional Development of Nursing and Midwifery. A multidisciplinary steering committee representing key stakeholders within nursing, midwifery, medicine, pharmacy, professional education, representatives of the Department of Health and Children – Nursing Policy Division and Pharmacy and health service management as well as public and patient representatives has supported the project team. The Review has extended over 3½ years with an interim report prepared at its midpoint and progress report for the public at 36 months. This is the final report that details all project activities and the recommendations of the Review.

The Report findings express the multiplicity of issues with regard to the initiation and continuing development of nurses' and midwives' scope of practice linking medication management with meeting the needs of the patient and community in general. The project activities captured the views of a wide range of individual practitioners, organisations and service users across the spectrum of health care.

The recommendations of the Review are broad and far reaching, emphasising the short-term actions and mapping the future directions required to support nurses and midwives in advancing their practices to embrace prescriptive authority. The ongoing support of the Department of Health and Children during this Review is acknowledged. An Bord Altranais and the National Council are committed to supporting further work deemed necessary to progress the recommendations contained in this report.

I wish to thank the many individuals and organisations who contributed to this Review, as members of the Steering Committee, participants involved with the medication management seminars and the focus groups, respondents to both the needs assessment questionnaire and exploration of need survey and the multidisciplinary health care teams for the pilot study on collaborative prescribing. I would like to acknowledge the commitment and support of Eugene Donoghue, Chief Executive Officer, An Bord Altranais and Yvonne O'Shea, Chief Executive Officer, National Council to this critical work which will drive the future agenda of nursing and midwifery in medication management. I would like to thank Anne-Marie Ryan, Chief Education Officer, Thomas Kearns, Acting Chief Education Officer both of An Bord Altranais and Kathleen MacLellan, Head of Professional Development, National Council for their ongoing input and expertise for this Review. Finally I would like to especially thank the Project Team, Kathleen Walsh and Denise Carroll for their commitment and professionalism in conducting the major research necessary and compiling the Final Report.



Anne Carrigy  
Review Chairperson  
President of An Bord Altranais



# Introduction

This *Review of Nurses and Midwives in the Prescribing and Administration of Medicinal Products* is a joint project of An Bord Altranais and the National Council for the Professional Development of Nursing and Midwifery (the National Council). The principal objective of the Review is to examine the potential future role of nurses and midwives in the prescribing of medications. It was established as a result of the recommendations made in the *Report of the Commission on Nursing - A Blueprint for the Future* (Government of Ireland, 1998) and the *Review of Scope of Practice for Nursing and Midwifery - Final Report* (An Bord Altranais, 2000a).

In the course of a consultative process undertaken for both these reports, it emerged that many nurses and midwives were concerned about their role in medication management and identified many constraints and obstacles. The Report of the Commission on Nursing stated that there were situations where "nurses or midwives might need to administer non-prescribed drugs or medicated dressings in the interests of the patient, in the absence of medical support" (Government of Ireland, 1998, p.58). This report, therefore, recommended that An Bord Altranais urgently review the guidelines in relation to the administration or application of non-prescribed drugs by nurses and midwives (Government of Ireland, 1998, p.58).

The boards of An Bord Altranais and the National Council approved terms of reference and a preliminary project plan and appointed Ms Kathleen Walsh as Project Officer and Ms Denise Carroll as Project Assistant to undertake this Review, which began in September 2001.

## Terms of Reference

1. Review of current practice, identifying relevant issues
2. Review of appropriate international literature and experience
3. Review of national and international legislation relating to nurse and midwife prescribing
4. Review of the *Guidance to Nurses and Midwives on the Administration of Medical Preparations* (An Bord Altranais, 2000b)
5. Review of intra- and inter- professional issues and their implications for nurse and midwife prescribing
6. Consideration of the circumstances in which nurses and midwives might prescribe
7. Identification of pilot sites suitable for the initiation of nurse and midwife prescribing
8. Identification and delivery of educational preparation necessary to support nurse and midwife prescribing
9. Consideration of documentation necessary to support nurse and midwife prescribing
10. Initiation and evaluation of nurse and midwife prescribing in pilot sites
11. Production of detailed guidelines including a framework for nurse and midwife prescribing where appropriate.

## Steering Committee

The Steering Committee for the Review represents members of the nursing, midwifery, medical, pharmacy and education professions, with the President of An Bord Altranais as Chairperson. At the Steering Committee's first meeting on 6th December 2001, it was determined that representatives from public and patient organisations should be added to the Committee's membership: subsequently, two new members were nominated. The Committee has met quarterly from December 2001 to the conclusion of the Review, June 2005.

## Sub-Committee

A sub-committee of the steering committee was set up with the following terms of reference:

- Review medicines legislation
- Revise the *Guidance to Nurses and Midwives on the Administration of Medical Preparations, 2000* produced by An Bord Altranais
- Identify a higher education institute, with a School of Medicine, to plan, execute and examine an education programme to support nurse and midwife prescribing in pilot sites.

The Sub-committee met quarterly in 2002 with its terms of reference completed at the final meeting on 19th March 2003. Some members of the Sub-committee served on the Royal College of Surgeons in Ireland Education Steering Committee, which conducted the education programme.

## Members of the Steering Committee

Mrs Anne Carrigy, Chairperson, Director of Nursing, Mater Misericordiae University Hospital, Dublin; President, An Bord Altranais (commenced September 2002)

Ms Sheila O'Malley, Chairperson, Director of Nursing and Midwifery, Health Service Executive (HSE) Eastern Region; Past President, An Bord Altranais (term completed September 2002, reappointed as a member January 2003)

Dr Cecily Begley, Director of School of Nursing and Midwifery, Trinity Centre for Health Sciences, The University of Dublin, Trinity College

Dr William Blunnie, Medical Council (resigned August 2004)

Mr Colum Bracken, Director of Nursing and Midwifery Planning and Development Unit, HSE North Eastern Area (resigned April 2004)

Mr John Byrne, An Bord Altranais (term completed September 2002)

Ms Antoinette Doocey, An Bord Altranais (term completed September 2002)

Ms Mary Durkin, An Bord Altranais (appointed January 2003)

Ms Mary Farrelly, Scope of Practice Representative, National Council for the Professional Development of Nursing and Midwifery

Mr Pearse Finnegan, National Council for the Professional Development of Nursing and Midwifery

Mr Pat Gaughan, Chief Executive Officer Group, Health Service Executive

Ms Margaret Hanahoe, Co-ordinator, Community Midwife Programme

Dr Velma Harkins, Irish College of General Practitioners

Ms Colette Hempenstal, Public Representative, (joined April 2002)

Ms Marie Keane, National Council for the Professional Development of Nursing and Midwifery

Ms Eileen Kelly, An Bord Altranais (term completed September 2002)

Ms Annette Kennedy, Nursing Alliance (February - September 2003)

Ms. Catherine Killilea, Director of Nursing and Midwifery Planning and Development Unit, HSE Southern Area, (joined April 2004)

Ms Marita Kinsella, Assistant Registrar, Pharmaceutical Society of Ireland (joined April 2005)

Ms Veronica Kow, An Bord Altranais (appointed January 2003)

Mr Matthew Lynch, Assistant Registrar, Pharmaceutical Society of Ireland (resigned February 2005)

Dr Kathleen Mac Lellan, Head of Continuing Education and Professional Development, National Council for the Professional Development of Nursing and Midwifery

Ms Mary Mahon, Director of Public Health Nursing, HSE Community Care

Ms Ann Martin, An Bord Altranais (term completed September 2002)

Ms Mary McCarthy, Chief Nursing Officer, Nursing Policy Division, Department of Health and Children

Mr Tom McGuinn, Chief Pharmacist, Department of Health and Children (resigned March 2005)

Mr Stephen McMahon, Chairperson, Irish Patients Association (joined April 2002)

Ms Kathryn McQuillan, National Council for the Professional Development of Nursing and Midwifery (resigned March 2003)

Ms Catherine McTiernan, An Bord Altranais (appointed January 2003)

Ms Jacinta Mulhere, An Bord Altranais (term completed September 2002)

Ms Yvonne O'Shea, Chief Executive Officer, National Council for the Professional Development of Nursing and Midwifery

Ms Mary Power, Nursing Alliance (temporarily replaced by Annette Kennedy, February - September 2003)

Dr Colm Quigley, Vice President, Medical Council (appointed April 2005)

Ms Simonetta Ryan, Principal Officer, Nursing Policy Division, Department of Health and Children (appointed September 2004)

Ms Valerie Small, Advanced Nurse Practitioner (Emergency)

Ms Pauline Treanor, An Bord Altranais (appointed January 2003)

### **In Attendance**

Ms Anne-Marie Ryan, Chief Education Officer, An Bord Altranais

Mr Thomas Kearns, Acting Chief Education Officer, An Bord Altranais (January - June 2005)

Ms Kathleen Walsh, Project Officer

Ms Denise Carroll, Project Assistant

### **Meeting Dates of Steering Committee**

6 December 2001	1 April 2003	21 September 2004
12 March 2002	8 July 2003	6 December 2004
30 April 2002	24 September 2003	17 February 2005
6 June 2002	16 December 2003	17 May 2005
19 September 2002	6 April 2004	14 June 2005
21 January 2003	19 July 2004	

## Members of the Sub-committee

Dr Kathleen Mac Lellan – *Chairperson*

Dr Cecily Begley

Mr Colum Bracken

Ms Mary Durkin (appointed January 2003)

Ms Margaret Hanahoe

Mr Matthew Lynch

Ms Ann Martin (term completed September 2002)

Ms Mary McCarthy

Mr Tom McGuinn

Ms Valerie Small

### In Attendance

Ms Anne-Marie Ryan

Ms Kathleen Walsh

Ms Denise Carroll

### Meeting Dates of the Sub-committee

30 April 2002	4 September 2002	28 November 2002
6 June 2002	19 November 2002	19 March 2003

## Review Structure

The review has extended over 3½ years with an interim report (Review of Nurses and Midwives in the Prescribing and Administration of Medicinal Products: Interim Report, July 2003) provided to the Board members of An Bord Altranais and National Council. A progress report (Review of Nurses and Midwives in the Prescribing and Administration of Medicinal Products: Progress Report, December 2004) was published in December 2004. In addition to this Final Report a Summary Report is available.

The Report comprises four sections with an outline of the contents for each. The sections are:

- Literature review
- Context of nursing and midwifery
- Project activities
- Discussion and recommendations

The literature review section consists of Chapter one – medication management and the process of prescribing, Chapter two – international experiences of nurse prescribing, Chapter three – competency frameworks and Chapter four – the outcome studies of nurse prescribing. Section two examines the context of nursing and midwifery with Chapter five – the context for an expanded scope of practice and Chapter six – professional guidelines for nurses and midwives. The project activities section comprises Chapter seven - medication management seminars, Chapter 8 – revision of the guidance document, Chapter nine – needs assessment survey, Chapter ten – exploration of need survey and Chapter eleven – pilot study of collaborative prescribing. Section four contains the discussion – Chapter twelve and the recommendations of the Steering Committee.

## List of Abbreviations

A & E	Accident and Emergency
AACN	American Association of College of Nurses
AARN	Alberta Association of Registered Nurses
ACNM	American College of Nurse-Midwives
AMP	Advanced Midwife Practitioner
AMAP	Australian Midwifery Action Project
ANP	Advanced Nurse Practitioner
APN	Advanced Practice Nurse (US)
AHWAC	Australian Health Workforce Advisory Committee
CEO	Chief Executive Officer
CMA	Canadian Medical Association
CMs	Certified Midwives (US)
CMHN	Community Mental Health Nurse
CMS	Clinical Midwife Specialist
CNA	Canadian Nurses Association
CNS	Clinical Nurse Specialist
CNM	Certified Nurse Midwife (US)
CNO	College of Nurses of Ontario
CSM	Committee on the Safety of Medicines (UK)
df	Degrees of freedom
DHSS	Department of Health and Social Security (UK)
DHSSPS	Department of Health, Social Services and Public Safety (Northern Ireland)
DH	Department of Health (UK)
DoHC	Department of Health and Children (Ireland)
DON	Director of Nursing
DTP	Drug Therapy Protocol (Queensland)
EC	Extended Class (Canada)
EDED	Education Department Education Queries Database
ENP	Emergency Nurse Practitioner
ERHA	Eastern Regional Health Authority
EU	European Union
EWTD	European Working Time Directive
FNIHB	First Nation Inuit Health Branch (Canada)
GP	General Practitioner
HMP	Health Management Protocol (Queensland)
HMSO	Her Majesty Stationery Office
ICN	International Council of Nurses
MDA	Misuse of Drug Act – term used for scheduled controlled drugs
MHRA	Medicines and Healthcare Products Regulatory Agency (UK)
MOH	Ministry of Health (New Zealand)

MWHB	Mid-Western Health Board
NCHD	Non-consultant House Doctors
National Council	National Council for the Professional Development of Nursing and Midwifery
NCSBN	National Council of State Boards of Nursing (US)
NHMRC	National Health and Medical Research Council (Australia)
NHS	National Health Service (UK)
NIC	Nursing Intervention Classification
NMAP	National Maternity Action Plan (Australia)
NMC	Nursing and Midwifery Council (UK)
NMPDU	Nursing and Midwifery Planning and Development Unit
NONPF	National Organisation of Nurse Practitioner Faculties (US)
NP	Nurse Practitioner
NPAC	New Prescribers Advisory Committee (New Zealand)
NPAO	Nurse Practitioners Association of Ontario
NPC	National Prescribing Centre (UK)
NPF	Nurse Prescribers Formulary
NSW	New South Wales
OSLER	Objective Structured Long Examination Record
OTA	Office of Technology Assessment (US)
OTC	Over-the-counter
PGD	Patient Group Direction
PHCNP	Primary Health Care Nurse Practitioner (Canada)
PRN	pro re nata (Latin); as necessary
PSI	Pharmaceutical Society of Ireland
POM	Prescription Only Medicines
QA	Quality Assurance
RCN	Royal College of Nurses
RCSI	Royal College of Surgeons in Ireland
RN	Registered Nurse
RNABC	Registered Nurses Association of British Columbia
SD	Standard Deviation
SHO	Senior House Officer
SI	Statutory Instrument
SPSS	Statistical Packages for Social Science
TCD	Trinity College Dublin
UCD	University College Dublin
UK	United Kingdom
UKCC	United Kingdom Central Council
US	United States



## Glossary of Terms

The glossary of terms used in this Review was established through an extensive literature review undertaken by the Project Team. The definitions provided in the glossary are derived from the international experiences of nurses and midwives prescribing, An Bord Altranais guidance documents for the professions and Irish legislation.

<b>Accountability</b>	The fulfilment of a formal obligation to disclose to referent others the purposes, principles, procedures, relationships, results, income and expenditures for which one has authority (Lewis and Batey, 1982, cited in An Bord Altranais, 2000a).
<b>Adverse drug reaction</b>	A response to a drug that is noxious and unintended and occurs at doses normally used in man for prophylaxis, diagnosis or therapy of disease or for the restoration, correction or modification of physiological function (EC directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use).
<b>Administration</b>	To give an individual dose of a medicinal product to a patient/client via direct contact (e.g. orally, by injection) or by indirect contact (e.g. application of a medicated dressing) and ensuring the completion of this activity. (Derived from the literature).
<b>Collaborative Nurse/Midwife Prescribing (Semi-Autonomous)</b>	The nurse/midwife has the authority under law to prescribe medications in collaboration with a medical practitioner. This may involve a written agreement and/or verbal consultation between the nurse/midwife and the medical practitioner as to which medications she/he is authorised to prescribe within that practice. Direct on site supervision by a doctor may or may not be required. The accountability for the patient assessment, the treatment plan and the decision to prescribe rests fully with the nurse/midwife. In some practices of collaborative prescribing the nurse/midwife is limited to making adjustments to a medication, such as dosage changes and prescribing repeat prescriptions. (Derived from the literature and defined in the Needs Assessment Survey).
<b>Competence</b>	The ability of the registered nurse or registered midwife to practise safely and effectively fulfilling his/her professional responsibility within his/her scope of practice (An Bord Altranais, 2000a).
<b>Decision-making</b>	The process of evaluating all the accessible information regarding a patient/client and arriving at a judgement or conclusion based on that information about the therapeutic plan for a patient/client. (Derived from the literature).
<b>Delegation</b>	The transfer of authority by a nurse or midwife to another person to perform a particular role or function (An Bord Altranais, 2000a).
<b>Dispensing</b>	<p>The preparation and issuing or transfer of a medicinal product customarily from a written prescription for administration by another or for self-administration.</p> <p>Dispensing activities may include:</p> <ul style="list-style-type: none"> <li>• Assessment of the clinical appropriateness of the prescription</li> <li>• Provision of recommendations to the authorised prescriber</li> <li>• Receiving and reviewing the prescription</li> <li>• Entering the order into the medication documentation system</li> <li>• Adjusting the order conforming to approved policy</li> <li>• Determining the medicinal product</li> <li>• Checking the expiration date of the drug</li> <li>• Reconstituting the product (if required)</li> <li>• Repackaging and labelling the medication</li> <li>• Final physical check for accuracy of completed medicinal product</li> <li>• Advising on the safe and effective use of the product</li> </ul> <p>(College of Nurses of Ontario, 2000).</p>

<b>External use</b>	Application to the skin, hair, teeth, mucosa of the mouth, throat, nose, ear, eye, vagina, or anal canal when a local action is intended and extensive systemic absorption is unlikely to occur (shall not include transdermal delivery systems, throat sprays, throat pastilles, throat lozenges, throat tablets, nasal drops, nasal sprays, nasal inhalations, or teething products) (SI 540 - Medicinal Products (Prescription and Control of Supply) Regulations 2003).
<b>Health prescription</b>	Prescription issued in connection with arrangements made under section 59 or section 67 of the Health Act (No. 1 of 1970) on a form supplied by or on behalf of a health board (SI 540 – Medicinal Products) (Prescription and Control of Supply) Regulations 2003).
<b>Health service provider</b>	Any setting where health care is provided, this includes residential facilities, schools and colleges. (Derived from the literature).
<b>Hospital</b>	Includes a clinic, nursing home or similar institutions (SI 540 Medicinal Products (Prescription and Control of Supply) Regulations 2003).
<b>Independent Prescribing Nurse/Midwife (Autonomous)</b>	The nurse/midwife is legally authorised to independently prescribe medications. She/he is responsible for the assessment of the patient, determining what the patient's problem is and making a diagnosis that may lead to a clinical decision to prescribe a medication. The nurse/midwife holds full accountability and responsibility for this process/action. No collaboration or consultation with a medical practitioner is required by law. (Derived from the literature and defined in the Needs Assessment Survey)
<b>Institution</b>	A hospital or a nursing home which is wholly or mainly maintained by a public authority out of public funds or by a charity or by voluntary subscriptions (Article 8 (1) (a) of the Misuse of Drugs Regulations, 1988).
<b>Medication error</b>	Any preventable event that may cause or lead to inappropriate medication use or patient/client harm while the medication is in the control of the health care professional, patient/client encounter or consumer. These events may be associated with professional practice, health care products, procedures and systems. This includes prescribing; order communication; product labelling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring and use (National Coordinating Council for Medication Error Reporting and Prevention, 1998). In the Irish health care context the activity of supply is included in this definition.
<b>Medication Management</b>	The facilitation of safe and effective use of prescription and over-the-counter medicinal products (McCloskey & Bulechek, 2000). It is a comprehensive intervention which encompasses the nurse's/midwife's knowledge and the activities that are performed to assist the patient/client in achieving the greatest benefit and best outcomes involving medications (Naegle, 1999). Responsibilities of medication management incorporate the assessment, planning, implementation and evaluation of the nursing and midwifery process in collaboration with other health care professionals in providing care. (Derived from the literature).
<b>Medicinal product</b>	Any substance or combination of substances presented for treating or preventing disease in human beings. Any substance or combination of substances which may be administered to human beings with a view to making a medical diagnosis or to restoring, correcting or modifying physiological functions in human beings is likewise considered a medicinal product (EC directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use).
<b>Medication protocol</b>	Written guidelines (developed with multidisciplinary collaboration) amongst health care professionals under which specific medicinal products are administered or supplied by nurses and midwives to patients/clients in a defined clinical situation (An Bord Altranais, 2003).
<b>Midwife</b>	A person whose name is entered in the midwives division of the Register (Nurses Act, 1985).
<b>Nurse</b>	A woman or man whose name is entered in the Register (Nurses Act 1985)

<b>Over-the-counter (OTC) medications</b>	Medicinal products which are exempt from prescription control under SI 540 - the Medicinal Products (Prescription and Control of Supply) Regulations, 2003 or the Misuse of Drugs Acts.
<b>Parenteral administration</b>	Administration by breach of the skin or mucous membrane (SI 540 - Medicinal Products (Prescription and Control of Supply) Regulations 2003).
<b>Pharmacist</b>	A person keeping open shop for the dispensing or compounding of medical preparations or for the sale of poisons under the Pharmacy Acts, 1875-1977. It also includes a registered pharmaceutical chemist, a registered dispensing chemist and druggist, and a registered druggist (Misuse of Drugs Act, 1977).
<b>Practise of medicine</b>	Includes practise of surgery, midwifery and other disciplines of medicine and "medical practitioner" should be construed accordingly (Medical Practitioners Act, 1978).
<b>Practitioner</b>	Registered medical practitioner, registered dentist and registered veterinary surgeon (Misuse of Drugs Regulations, 1988).
<b>Prescription</b>	Means a prescription issued by a registered medical practitioner for the medical treatment of an individual, by a registered dentist for the dental treatment of an individual, or by a registered veterinary surgeon for the purposes of animal treatment (Misuse of Drugs Regulations, 1988).
<b>Prescriptive authority</b>	The legal authority to prescribe (i.e to authorise in writing the dispensing, supply and administration of a named medicinal product for a specific patient or client). (Derived from the literature).
<b>Scope of practice</b>	The range of roles, functions, responsibilities and activities which a registered nurse/midwife is educated, competent, and has authority, to perform (An Bord Altranais, 2000a).
<b>Supply</b>	Includes sell, distribute or offer or keep for sale, supply or distribution notwithstanding that the person supplied may be in another Member State of the European Community and cognate words shall be constructed accordingly (SI 540 - Medicinal Products (Prescription and Control of Supply) Regulations 2003).



# Executive Summary

The Review of Nurses and Midwives in the Prescribing and Administration of Medicinal Products has examined the role of nurses and midwives in the expansion of medication management practices including prescribing. Key issues surrounding this expanded scope of practice have been identified and explored during the course of this Review and are presented in this Report. The Executive Summary illustrates these issues and provides a general outline of the topics and activities detailed in the Final Report.

## Medication Management:

The term medication management was introduced as a core concept of the Review and has been adopted as the descriptor of nursing interventions with medications in the delivery of care.

An understanding of the process of prescribing and its critical components, coupled with a familiarity of prescribing models, is essential in considering the future direction for nurses and midwives in Ireland. It has been detailed in this Review for the purpose of informing key stakeholders in giving their views on prescriptive authority for Irish nurses and midwives.

Various forms of prescribing practices are utilised by nurses and midwives internationally. The models presented in the Review are independent; collaborative; and group protocols.

## International Experiences:

The international experiences of nurses and midwives prescribing demonstrate the influencing variables of increasing specialisation of the professions, concerns about the reduction of numbers of medical practitioners, the unavailability of adequate health services in underserved and rural areas and the growing numbers of advanced practice nurses (e.g. nurse practitioners). These issues also challenge the delivery of health care in Ireland.

The introduction of prescriptive authority in other countries has required extensive examination and subsequent rewriting of legislation pertaining to medicines and professional regulation. Secondary legislation supporting the primary legislation has also been enacted in some circumstances.

Consultations conducted by departments of health for introducing and furthering prescriptive authority for nurses and midwives, linked with government health care policies and strategies aimed at improving health care access and service for the public, have contributed to shaping the change process.

The educational and professional requirements for prescribing by nurses and midwives differ from country to country and there are variations within each country. In the main, the majority of nurses undertake post-registration education at a higher diploma or master's degree level. The exception to this is the UK model. In general, midwives receive their instruction for their prescriptive practices during their pre-registration education. The authority for prescribing or initiating medications (through the activity of supply or administration) is restricted to those medicines relevant to midwifery care and newborn care.

## Competency Frameworks:

Competencies for nursing and midwifery practice are the founding structures for facilitating the assessment of nurses' and midwives' attainment of knowledge and skill following clinical and theoretical education in both pre-registration and post-registration programmes.

Competency frameworks for prescribing have been constructed typically within advanced practice models of nursing by professional and regulatory nursing and midwifery organisations. Concepts commonly shared within these frameworks incorporate the pharmacology, clinical assessment, decision-making, diagnosis, professional practice and ethical aspects of prescribing and advanced practice.

The domains of competence approved by An Bord Altranais (as part of the *Requirements and Standards for*

*Nurse Registration Education Programmes, 2000c*), coupled with shared concepts of international frameworks, have been used to create the competencies for collaborative prescribing for the pilot study undertaken as part of this Review.

### **Research Studies on Nurse Prescribing:**

The outcomes associated with nurse prescribing that were derived from the literature are summarised in eight themes:

- Appropriate and safe prescribing
- Patient satisfaction
- Convenience and greater accessibility for patients
- Nurses as providers of information
- Patients having improved compliance with their medications
- Fewer pharmacological interventions considered
- Appropriate clinical decision-making
- Cost-effectiveness.

The principles of providing effective, ethical and safe care are evident in these themes. Much of the research conducted took place in the US and the UK.

Many of these themes have re-emerged in the findings of the present Review's activities – in the focus groups, the needs assessment and exploration of need surveys and the pilot study on collaborative prescribing. This illustrates that there are similar outcomes associated with identifying the need for nurse/midwife prescribing and its implementation in practice, regardless of differing health care systems.

### **The Context for Expanded Scope of Practice:**

Significant advancements and challenges have taken place within nursing and midwifery within the last few years especially in relation to the professions' roles and accountability for medication management.

Developments such as the establishment of the Nursing Policy Division of the Department of Health and Children, the initiation of pre-registration education programmes for nurses at degree level, the proliferation of post-registration courses, the creation of clinical career pathways for the clinical nurse specialist and the advanced nurse practitioner have contributed to these advancements and expansion.

The present challenges for delivering quality care within the health service are influenced from numerous avenues: current legislation for medicines and professional regulation, the government's reform programme, accompanying reports, associated policies and other documents.

### **Professional Guidelines:**

As the regulatory body for nurses and midwives An Bord Altranais gives professional guidance relating to ethical conduct, determining one's scope of practice, the role of the midwife and guidance in medication management for nurses and midwives. These key documents facilitate decision-making by the individual practitioner. They also inform those outside of the profession of the core responsibilities of nurses and midwives.

### **Medication Management Seminars:**

The Review's Project Team conducted a programme of medication management seminars for nurses and midwives. They were held to increase their awareness and knowledge of the subject and examine their current practices through focus groups in which over 1,200 took part.

Themes that emerged from the analysis of the focus groups included the rationale for introducing prescribing by nurses and midwives, outlining the benefits for its initiation, consideration of the several models of prescribing and the essential elements for introducing prescriptive authority.

Many believed that the initiation of over-the-counter medications should be addressed as a matter of urgency. Participants, who represented diverse practice settings, said that the introduction of prescribing should be driven by patient and client need, and not by other variables.

### **Revision of Guidance Document:**

The revision of the guidance document on the administration of medications, produced by An Bord Altranais, was undertaken by the Review Project Team, based on the evolving practices and concerns of nurses and

midwives involved with medication management. Greater clarity was sought from the professions as evidenced by queries received via a newly constructed Education Department Enquiries Database. A strong link was established with the concepts found in the Scope of Nursing and Midwifery Practice Framework and the individual's role with medications and patient care.

Future revisions will be linked with the recommendations coming from this review including the inclusion of a medication protocol framework and guidance for the initiation of the supply and/or administration of over-the-counter medications.

### **Needs Assessment Survey:**

The needs assessment survey was designed to ascertain the need for prescribing by nurses and midwives. It considered the views of both direct and indirect care providers and over 1,000 nurses and midwives completed the survey questionnaire.

Key findings showed that the choice of the model of prescribing selected by the largest percentage was the collaborative approach (48%) followed by 31% for the protocol model and 14% for independent practice of prescribing.

Factors that influenced the choice of the model selected were current position, geographical area, a collaborative working environment and post-registration academic qualification. Those working in a medical surgical setting had the strongest support for the protocol model while those in public health or working as midwives favoured an independent model.

It was evident from the responses that nurses and midwives wanted greater autonomy for their practices and provision of legislation for prescribing to help them meet patient/client health care needs. This was especially true for those who wished to to prescribe independently.

The analysis of the needs assessment survey points can help to direct future considerations of the practice settings and the clinical position and educational qualifications of nurses and midwives in determining prescriptive authority.

### **Exploration of Need Survey:**

The exploration of need survey sought the views of key stakeholders representing patient organisations, professional representative bodies, governmental health agencies and statutory bodies on the need for introducing prescriptive authority for nurses and midwives. Many respondents supported it, either through an independent or collaborative model, but there were differences relating to practice settings in which it should be introduced, and the required experience and academic levels of the practitioner.

The associated benefits for service users and providers mentioned by respondents were comparable to those previously noted in the international experiences, outcome studies and from the focus groups. These were:

- Time savings
- Greater efficiency of staff and treatment provision
- Increasing access and choice
- General improvements in medication management.

The supports required that were identified by the stakeholders were similar to those expressed by the participants in the focus groups. They included:

- Strengthening current medicine and professional regulation and legislation
- Support from other disciplines
- Utilisation of protocols for expanding practices
- Addressing issues of accountability and liability.

The respondents saw acceptance by patients and clients for nurses and midwives taking on expanded roles for prescribing as positive. Many referred to the international experiences to substantiate this view.

### **Pilot Site Study:**

The pilot study of nurses and midwives collaboratively prescribing using locally devised medication protocols allowed for implementation of a limited form of prescribing in a diversity of health care settings. This model was congruent with other countries initiatives for expanded medication management practices.

A medication protocol framework and competencies for collaborative prescribing, coupled with a six-month

education programme, provided the structure for the pilot. Medical practitioners and pharmacists provided additional support and expertise throughout the pilot. The backing of key members of the prescribing process was critical for this new health care initiative, especially in view of the current challenges facing the Irish health care system.

The study's implementation and evaluation phase extended over a three-month period, with 17 nurses and midwives of various clinical and educational experiences participating.

The evaluation of the clinical decision-making of the nurse/midwife was overwhelmingly positive. The great majority of nurses and midwives addressed the audit tool criteria for collaborative prescribing and were competent, determined by the medical practitioners' chart review for completion of the audit tool.

Patients' satisfaction with information on their medicines revealed that most of the 88 patients who answered the questionnaire were completely satisfied with the information provided by the nurse/midwife. Nurses as good information providers was a significant outcome for many of the studies on nurse prescribing.

The analysis of the post-implementation questionnaire completed by the participating nurse/midwife, clinical mentor and pharmacist showed that patient benefits for easier access to treatment, more timely treatment and the provision of holistic care were realised in many of the sites. Greater use of the professional skills of the nurse/midwife was also evident. These findings are in line with outcomes in the international literature.

By the very nature of the design of the pilot, collaboration was a key element to the successful implementation of this prescribing model. The participants in their evaluation comments addressed collaborative practice, with most nurses and midwives believing it worked well in their settings. Some doctors and pharmacists agreed that protocol development was the main collaborating exercise at their sites.

## **Conclusion:**

Nurses and midwives are expanding their scope of practice for medication management. The findings of this Review have shown that there are various levels of medication management which can be initiated and further developed to support nursing and midwifery services in addressing health care needs. Prescriptive authority, the utilisation of medication protocols, and initiation of the supply or administration over-the-counter medications are all areas that may allow nurses and midwives to better utilise their knowledge and skills and advance their individual scope of practice for the benefit of patients and clients.

The scope of practice for the nurse/midwife authorised to prescribe is dependent on the model utilised and associated legislation and professional regulation. The use of medication protocols may also be directed by legislation and health service policy. This Review has identified that these fundamental supports need to be developed in Ireland, as in other countries. Many of the organisations and individuals involved in the delivery of health care and recipients of care have called for these changes.



# Recommendations of the Steering Committee

## Recommendation 1: Continuation of the Use of Medication Protocols

The use of medication protocols (other than for controlled drugs under the *Misuse of Drugs Acts*) within hospitals is recognised by the Department of Health and Children as an established practice of medication management. The use of such protocols should continue to be developed and supported.

### Action 1.1: Professional guidance

An Bord Altranais will revise the current *Guidance to Nurses and Midwives on Medication Management* (An Bord Altranais, 2003) to incorporate the medication protocol framework that was developed, tested and evaluated as part of the project.

### Action 1.2: Health service provider responsibility

Provision should be made by health service providers for the development and implementation of medication protocols in hospitals. As the responsibility for the procedures and controls that are applicable to medication protocols rests with the individual hospital, it is important that local policies are devised to support the development and implementation of any medication protocols for patient/client care.

Provisions should be made:

- to enable nurses, midwives and members of the multidisciplinary health care team to devise and implement medication protocols
- to enable the education and training of nurses and midwives involved in the use of such protocols
- to disseminate information to all members of the health care team regarding organisational policies underpinning the use of medication protocols
- to establish review and audit processes to evaluate the use of medication protocols as part of quality assurance and risk management programmes.

## Recommendation 2: Expansion of the Use of Medication Protocols

It is recommended that an explicit legislative basis be provided for the supply and administration of medicinal products using medication protocols by nurses and midwives in hospital and community settings.

## Recommendation 3: Supply and Administration of Over-the-Counter Medications

Nurses and midwives should be enabled to supply and administer over-the-counter medications to patients and clients in accordance with their competence and within their scope of practice and supported by medication protocols where appropriate.

**Action 3.1: Professional guidance**

An Bord Altranais will revise the current *Guidance to Nurses and Midwives on Medication Management* to incorporate guidance for the professions to supply and administer over-the-counter medications.

**Action 3.2: Health service provider responsibility**

Provision should be made by the health service provider for the development and implementation of policies to support the supply and administration of over-the-counter medications by nurses and midwives in health care settings. The provisions as detailed in Action 1.2 should also be made available for this action involving over-the-counter medications.

**Recommendation 4: Prescriptive Authority**

Prescriptive authority should be extended to nurses and midwives, subject to regulations under the relevant legislation by the Minister for Health and Children and regulation by An Bord Altranais.

**Action 4.1: Legislation**

A review and subsequent enactment and/or amendment of all relevant primary and secondary legislation is required in order to introduce prescriptive authority for nurses and midwives. This is a matter for the Department of Health and Children.

**Action 4.2: Professional regulation and guidance**

The criteria for nurse/midwife prescribing must be established. This will require defining the scope of practice for which prescriptive authority will be granted. It is recommended that the establishment of criteria for nurse/midwife prescribing should be the responsibility of An Bord Altranais.

**Action 4.3: Professional regulation and guidance**

The standards and requirements in respect of the education and training leading to prescriptive authority for nurses and midwives must be established. It is recommended that the establishment of such standards and requirements should be the responsibility of An Bord Altranais.

**Recommendation 5: Implementation of the Recommendations and Actions**

An Bord Altranais and the National Council for the Professional Development of Nursing and Midwifery should establish a Project Implementation Team to work in consultation with key stakeholders to facilitate the implementation of these recommendations and actions.

# Section 1

## LITERATURE REVIEW



## Section 1 - Outline of Content

**Chapter 1** examines the concept of medication management and its related activities. The process of prescribing medications and the steps involved are outlined as a basis for examining the various models of prescribing practised by nurses and midwives internationally.

**Chapter 2** details the development and implementation of nurse prescribing in a number of countries. Particular emphasis is given to the contributing factors that have enabled this expansion of practice, the education level achieved by nurses/midwives authorised to prescribe, and which speciality areas of nursing and health care necessitated prescriptive authority. Health care policies, medicines and nursing legislation of individual countries are presented as they relate to the introduction of prescribing.

**Chapter 3** reviews the concept of competence in relation to professional nursing/midwifery practice and the competency frameworks developed to support nurse/midwife prescribing in selected areas.

**Chapter 4** examines the research relating to nurse prescribing. Studies examining nurses' perceptions and the need for prescriptive authority are first presented illustrating the supports that would be required in a number of practice settings. Where nurse prescribing has been introduced, the following consistent outcomes have been reported and are discussed in detail:

- Appropriate and safe nurse prescribing
- Patient satisfaction
- Convenience and greater accessibility for patients
- Nurses as information providers
- Improved medication compliance by patients
- Fewer pharmacological interventions by the prescribing nurse
- Better clinical decision-making by the nurse-prescriber
- The cost-effectiveness of nurse prescribing.

## CHAPTER 1

# Medication Management and the Process of Prescribing

### 1.1. Medication Management

The following section describes the activities involved in the prescribing and administration of medications by nurses and midwives. These terms are based on the review of the relevant medical, nursing and midwifery and pharmacy literature in which authors have supplied a definition or description of a specific term.

The term *medication management* has been employed extensively in health care literature to describe the interventions and activities of nurses and other health care professions involving medicines (Arnold, 1999; Bailey, 1999; Jordan, Hardy & Coleman, 1999; McCloskey & Bulechek, 2000; Naegle, 1999; Nurses Board of Victoria, 2001; Snell, 1999; Tweedie & Jones, 2001). The United Kingdom's Department of Health (DH) describes medicines management as:

"...the clinical, cost-effective and safe use of medicines to ensure that patients get the maximum benefit from the medicines they need, while at the same time minimising potential harm." (DH 2004a, p.1)

Another definition from a pharmacy perspective, by Tweedie and Jones also using the term *medicines management* versus *medication management*, is:

"The systematic provision of medicines therapy through a partnership of effort between patients and professionals to deliver best patient outcome at minimised cost." (Tweedie and Jones, 2001, p. 248)

The University of Keele's Department of Medicines Management has adopted the definition:

"Medicines management seeks to maximise health gain through the use of medicines. It encompasses all aspects of medication use from the prescribing of medicines through the ways in which medicines are taken or not taken by patients." (University of Keele, 2005)

The Nurses Board of Victoria, in its report (2001) on the recognition and implementation of the nurse practitioner position within the state, includes a definition of medication management incorporating the phrase "therapeutic medication management." The components of this activity, as described in the Report, are:

- The assessment and diagnosis of the patient
- The appropriate selection of drugs from an approved formulary
- Prescription writing
- Providing advice to the patient regarding correct use of medications
- The administration, supply and sale of medicines.

McCloskey and Bulechek (2000, p. 451) describe medication management as: "...the facilitation of safe and effective use of prescription and over-the-counter drugs".

This definition, though broad, embraces the concepts of safety and efficacy closely associated with corresponding nursing interventions exclusive to medication management. McCloskey and Bulechek used a number of research methodologies (e.g. survey, Delphi studies) with the nursing profession to determine the various nursing activities that are associated with medication management. (This was part of a larger project in developing the Nursing Interventions Classification System – a taxonomy for the nursing profession). The term, and accompanying nursing interventions, has a clear advantage over other authors' descriptions, and is particularly relevant to the current Review of nurses' and midwives' expansion of medication management practices in Ireland.



## 1.2. Nursing Activities of Medication Management

Nursing activities in the management of medications include the monitoring of the patient for therapeutic effects, adverse effects and non-therapeutic drug interactions (McCloskey & Bulechek, 2000; Naegle, 1999; Nurses Board of Victoria, 2001). Education of the patient is also an integral part of this practice and should be carried out in collaboration with other health care professionals (Naegle, 1999). Naegle describes medication management (inclusive of prescribing) as a comprehensive intervention that encompasses the nurse's knowledge, and activities that are undertaken for the patient's maximum benefit from pharmacotherapeutic agents (1999, p. 234). The importance of educating nurses and midwives on the comprehensiveness of medication management and its associated activities cannot be underestimated when considering an expansion of scope of practice involving medicines (Bailey, 1999; Naegle, 1999; Nurses Board of Victoria, 2001; Wong & Rawlins, 2000).

## 1.3. The Prescribing Process

The process of prescribing medications is a major clinical intervention for practitioners, and considerable attention has been devoted as to what constitutes this activity (Arnold, 1999; Avorn, 1995; Bailey, 1999; de Vries et al., 1994; Snell, 1999). The need for a sound knowledge base for prescribing is essential, given the significant effects of medications on the health of individuals. Medication errors, adverse drug events, polypharmacy (particularly in the elderly), rising costs for medications and the issue of improving patient adherence are some of the topical concerns that call for careful practices of prescribing (Keller et al., 2004). National health care committees — the Institute of Medicine in the US (2000) and the Audit Commission of the UK (2001) — have identified, through their reviews of medication management, that much work is needed to improve patient outcomes with medications. They assert that appropriate prescribing is one major step to achieving this objective.

Where nurse prescribing has been introduced, government, state and professional organisations (National Prescribing Centre (NPC), 2001, Nursing Council New Zealand, 2001; Victorian Nurse Practitioner Task Force, 1999;) have provided outlines of the process of prescribing for the purpose of summarising information. It is necessary to examine the literature specific to educating practitioners on prescribing to fully appreciate the elements of this multifaceted activity. Many educators and clinicians have written about the curriculum development to support the learning of clinical pharmacotherapeutics and prescribing (Keller et al., 2004; National Council of State Boards of Nursing and National Organisation of Nurse Practitioner Faculties, 1998; Scobie et al., 2003) with minimal reference as to how the process is actually undertaken.

One exception is the systematic approach to prescribing offered by de Vries (1993a) that has been adopted by the World Health Organisation in providing guidelines for the international community. This is a problem-solving model combined with decision analysis. Practical aspects of medicine and fundamental principles and facts of pharmacology structure this comprehensive approach and it views prescribing as a sequential activity.

de Vries (1993a) compares prescribing to the common process of examining scientific problems. This entails:

- Identifying the problem
- Formulating a diagnosis (hypothesis)
- Starting treatment (conducting an experiment)
- Interpreting and monitoring results
- Drawing conclusions
- Determining further action.

These general phases are further divided into individual steps. The first is the ability to make a diagnosis and prognosis. It is critical at this point that the pathophysiology of the patient is viewed in tandem with the individual's psychological and social conditions (de Vries, 1993a).

Subsequent steps involve identifying the therapeutic goal of treatment, which may be one of the following:

- Treatment of a disease or disorder
- Symptom relief
- Prevention of disease
- Combination of any of the above.

The next step for prescribing is the selection of a drug (or treatment). The prescriber does this by creating a personal selection of medicines that he/she may be required to prescribe regularly, and is familiar with, for the individual health problems or diseases typically represented in the practice setting. These medicines are termed P-

drugs (P meaning personal). In choosing the treatment, the practitioner may need to consider both pharmacological and non-pharmacological means, pharmacological intervention, referral to another individual or a combination of these options. Safety, efficacy, convenience and cost are all critical factors to consider in choosing a medication (Parish in de Vries, 1993a). Determining if the selected medication is suitable for the individual necessitates knowledge of any contraindications or interactions for the patient.

Once the decision is made to start treatment, the prescriber should ensure that the prescription is correctly written, all relevant education is provided to the patient regarding the treatment plan and that follow-up monitoring is arranged. This optimises the probability for successful outcomes of prescribing for patients (McCloskey & Bulechek, 2000).

The concluding steps involve monitoring the patient to assess if the treatment or drug has been effective in resolving the problem. Following on from this, is the decision for additional action, which requires the prescriber to decide whether the medication can be stopped, needs to continue or be changed. If the problem is not resolved, the practitioner must consider the entire process again (de Vries, 1993a).

This step-by-step, rational system of teaching the art and science of prescribing has been employed in both medical school education (de Vries, 1993b) and pharmacy (Kawakami, Mimura, Adachi et al., 2002). From a biomedical perspective, Arnold (1999) states the requirement for a pathophysiologic orientation to medication management by the prescriber. The author presents a very detailed approach for clinical decision-making surrounding the act of prescribing and structures it within the medical model. McCloskey and Bulechek (2000), in their continuing refinement of the Nursing Classification System, list nursing activities required for safe and effective prescribing that emphasise the importance of patient and multidisciplinary collaboration and consider cultural and social influences. This comprehensive listing has been determined by consensus with nurse prescribers and other nurses practising in a variety of settings and specialities. Although it does not provide a detailed approach like de Vries (1993a), it does portray the many concerns that affect prescribing methods.

In considering the introduction of nurse and midwife prescribing in Ireland, it is critical that health care practitioners, service providers and policy makers possess a general understanding of the prescribing process, without which there cannot be informed debate. The formation of educational, clinical practice and regulatory requirements for nurses and midwives to safely and effectively prescribe must be founded on an agreed consensus as to what prescribing entails and the skills and knowledge that an individual prescriber should possess.

## 1.4. Prescribing Practice Models

Nurses and midwives in a number of countries have undertaken the responsibility of prescribing for their patients as part of their holistic delivery of care. The prescribing practices of nurses have been described by many authors within the context of examining the legislative and regulatory processes involved in granting prescriptive authority of some type or degree to the professions (Buchan & Calman, 2000; Cohn, 1984; McDermott, 1995; New Zealand Ministry of Health (MoH), 1997; Nolan & Can, 2001; Pearson, 2001; Poulton, 1994; Snell, 1999). An understanding of these practices will greatly assist in the formation of a plan of action for implementing nurse and midwife prescribing in Ireland.

Poulton's review (1994) of the proposals for nurse prescribing in the UK, which are put forward in the *Crown Report* (DH, 1989), presented three categories:

- 1) Initial prescribing, which involved a nurse being authorised to prescribe from a specifically designated nurses' formulary of limited medicines.
- 2) Group protocol prescribing, which was designed to allow nurses to administer medicine that were pre-designated by a medical practitioner, specific to the requirements of a written protocol that was mutually agreed upon and which provided details of the medicine and the circumstances in which it was to be given.
- 3) Time and dose prescribing, which was described as granting responsibility to nurses to change the time and dosage of specified drugs originally prescribed by the medical practitioner. Patient specific protocols were necessary to do this.

McDermott (1995) identifies the need within the nursing profession to adequately address the confusion surrounding prescribing. McDermott, unlike Poulton (1994), does not categorise prescribing into classes but provides clarification of the terms *prescriptive authority*, *prescriptive privileges* and *independent and dependent authority*.

McDermott defines *prescriptive authority* as possessing the legal power and right to autonomously prescribe medicines, while *prescriptive privilege* is a result of those in authority granting prescriptive rights to particular

persons or groups. McDermott further describes prescriptive authority as having independent (plenary or full) authority and dependent (statutory) authority. *Independent authority* is where permission to prescribe is sanctioned and administered by the state board of nursing. This independent authority does not stipulate the need for a physician signature, collaboration or protocol and is confined within the nurses' scope of practice. *Dependent* or *statutory authority* restricts what the nurse can prescribe and the requirements of physician supervision of an advanced practice nurse by practice agreements or protocols, which are specifically called for within the state law.

Cohn (1984), a nurse midwife and solicitor, examined the many methods in which advanced practice nurses (APNs) in the US undertook prescribing for their patients. The author gives no classification of these methods but does provide general information surrounding legislative authority for prescribing in the US. Cohn examined a number of the regulatory practices that are used by states in granting prescriptive authority to APNs, and gives a summary of the methods employed by APNs to write prescriptions where there is no explicit authority for prescription writing. Even though states had authorised prescriptive practice, it was still limited by regulations or protocol. Cohn's work was written a decade earlier than Poulton (1994) and McDermott (1995) and her methods of prescribing do not neatly slot into the categories or classes presented by these authors.

Nolan and Can (2001) studied the US experience of nurse prescribing, particularly in the speciality of mental health and presented two types of prescribing practices: *substitutive* and *complementary*. They define *substitutive authority* as the nurses' ability to prescribe medications without supervision. In contrast, *complementary practice* stipulates that a nurse must collaborate with a medical practitioner and supervisory mechanisms must be in place. Nolan and Can (2001) concluded that this latter model of prescribing limits the autonomy of the nurse.

Prescriptive authority for advanced practice nurses, as examined by Snell (1999), is divided into three categories: independent authority, physician-supervised collaborative prescribing (no co-signature required), and prescribing founded on a standardised procedure or formulary. The author provides a brief examination of the prescriptive privileges of advanced practice nurses throughout the US and summarises that, because of this continuum of prescribing, it is important that the nurse is knowledgeable of these practices to ensure safe and competent practice. Snell gives no details or description of the categories of prescriptive authority.

The *Report of the Working Group on Advising on the Quality and Safety Issues Associated with Extending Limited Prescribing Rights to Registered Nurses* (New Zealand MOH, 1997) gives five prescribing scenarios for public discussion:

- 1) Initial/independent/autonomous prescribing authorises a nurse to prescribe from a limited or an open formulary or list of medicines without collaboration with a medical practitioner
- 2) Collaborative or semi-autonomous prescribing authorises a nurse to prescribe medicine from a limited or open formulary in collaboration with a medical practitioner
- 3) Dependent prescribing allows a nurse to prescribe a medicine as long as a supervising medical practitioner signs the prescription
- 4) Group protocol prescribing authorises a nurse to administer medicines predetermined by a medical practitioner within the terms of a mutually agreed written protocol detailing the medicines and the situation in which it would be given
- 5) Time and dose prescribing involves working within patient specific protocols to alter the dosage of specified medicines prescribed by a medical practitioner.

Within each of these categories, international experiences from the US and the UK were presented. As with the previous discussions on the classifications of prescribing, the New Zealand report gives no critique of each model.

Buchan and Calman (2004), in their work for the International Council of Nurses, provide a comprehensive description of four models of prescribing practices:

- Independent prescribing (also termed initial/autonomous and substitutive)
- Collaborative prescribing (also termed dependent/semi-autonomous, complementary or supplementary)
- Group protocols
- Time and dose prescribing.

The authors state that the use of group protocols should not be considered as a form of independent prescribing, as they allow nurses and midwives the authority to administer medicines only within a defined protocol. However, they note that group protocols may be a stepping-stone towards independent prescribing, by



allowing nurses to develop the necessary experience and competencies. They consider that time and dose prescribing is another form of administration, and not prescribing per se, as the individual nurse or midwife is administering under the direction and authority of a medical practitioner (Buchan and Calman, 2004).

A summary of three prescribing models is presented below, incorporating the works of the various authors described previously. It is important to note there is no uniformity of prescribing practices amongst those nurses and midwives who have obtained prescriptive authority (Bailey, 1995).

#### **1.4.1. Initial/Independent/Autonomous**

Under this model, the nurse/midwife is authorised to independently prescribe or advise about medications. A limited or open drug formulary may be used to determine the specific medication to be prescribed, as determined by legislation and local policy. The nurse/midwife encompasses the prescribing process in his/her overall care of the patient. This involves clinical decision-making, defining the patient's problem and formulating a diagnosis. This model supports the autonomy of the nurse's/midwife's prescribing decisions, with the accountability of the decision fully resting with that individual (Buchan & Calman, 2000; McDermott, 1995; New Zealand Ministry of Health, 1997; Pearson, 2001; Poulton, 1994).

#### **1.4.2. Dependent/Collaborative/Semi-Autonomous/Supplementary**

Under this model, the nurse/midwife is authorised to prescribe medicine in collaboration with a medical practitioner. Written collaborative practice agreements or verbal consultations may be necessary for dependent prescribing (McDermott, 1995), but direct on-site supervision by the doctor may not be required (New Zealand Ministry of Health, 1997; Pearson, 2001). In other dependent practices, the medical practitioner is required to sign the prescription written by the nurse/midwife, thereby including the medical practitioner in the scope of accountability for the prescription. A limited or open formulary may be used.

Whilst the initial assessment and diagnosis of the patient may not, in some instances, be performed by the nurse/midwife but by the medical practitioner, the nurse/midwife still makes the prescribing decision (Buchan & Calman, 2000). This may occur where a repeat prescription is being written. Proposed examples of this model include a patient with hypertension returning to the general practitioner's office for renewal of blood pressure medications, or a woman presenting to the family planning clinic for a repeat prescription for oral contraceptives (Ogilvie, 1999).

Timing and dosage changes of a medication are within the model of dependent prescribing. This form of prescribing is often practised in settings where repeat prescriptions are being prescribed for chronic conditions (New Zealand Ministry of Health, 1997). A palliative care nurse adjusting a patient's analgesic schedule to alleviate the patient's complaint of increased pain is a nursing care scenario that would require timing and/or dosage changes (Poulton, 1994).

#### **1.4.3. Group Protocols**

The group protocol model is not, strictly, prescribing in the true sense of the definition, as it may involve the authorisation of the nurse/midwife to initiate, administer or supply a medication to groups of patients in a defined situation (New Zealand Ministry of Health, 1997). This practice involves developing a specific medication protocol, ideally with a multidisciplinary input, based on evidence of best practice (Mayes, 1999). The accountability of all individuals involved in the use of the protocol should be stated along with the identified patient population. The medication protocol should adhere to particular standards, such as identifying who is responsible and competent to carry out the protocol, state specific inclusion and exclusion criteria and include a review date. Group protocols are particularly effective in practice settings where a particular group of patients require certain medications to be administered, for example in the administration of childhood and travel vaccinations (Mayes, 1999).

## **Summary**

Resulting from a review of relevant health care literature, various definitions of medication management were presented. The activities of medication management for the health care team were also described, with an emphasis on nursing responsibilities. The process of prescribing, using de Vries' system approach was described followed by the models of prescribing practices. The three practice models reviewed were independent/autonomous, collaborative/dependent prescribing and group protocols, which require varying degrees of professional and legal responsibility for the nurse or midwife involved in these practices.



# CHAPTER 2

## International Experiences of Nurse Prescribing

### 2.1. Introduction

The delivery of care provided by nurses and midwives has undergone significant change on the international scene due to a variety of interrelated factors, including economics (Pearson, 2001), a diminishing number of medical providers (Nolan & Can, 2001; Towers, 1999) and growing specialisation amongst the professions (Ketefian et al., 2001). These influencing variables, coupled with the increasing specialisation of nurses and midwives in association with an expanded scope of practice, have made prescribing an essential component of medication management by the professions in order to more fully provide holistic care (Bailey 1999; Buchan & Calman, 2000; McDermott, 1995). The international experiences of prescribing and expanded medication management by nurses and midwives in the UK, US, Canada, New Zealand, Australia and Sweden are reviewed below.

### 2.2. United Kingdom

The need for nurse prescribing was first identified in 1986 in the Cumberlege Report, *Neighbourhood Nursing – A Focus for Care*, which was commissioned by the UK Department of Health and Social Security in response to problems identified by district nurses working in the community. The review team, chaired by Mrs Julia Cumberlege, chairman of the South West Thames Regional Health Authority, was asked to review practice issues surrounding community health nursing and make recommendations for the future (Department of Health and Social Security (DHSS), 1986). The report's findings were based on submissions received from organisations and individuals, visits by the team to districts in every health region in England, meetings with professional organisations, health visitors, nurses and midwives, and colleagues from other professions, including doctors. Visits were also made to patients in receipt of care in the community, where the team witnessed innovative work practices by nurses in meeting patient need (DHSS, 1986).

Among other recommendations intended to make better use of community nursing skills, the report concluded that:

"The DHSS should agree limited list of items and simple agents which may be prescribed by nurses as part of a nursing care programme, and issue guidelines to enable nurses to control drug dosage in well-defined circumstances." (DHSS, 1986, p.62)

The report concluded that district nurses were required to spend an unnecessary amount of time in returning to the surgery to ask doctors to write prescriptions for basic items in day-to-day home nursing. It recommended that skilled nurses working in the community with terminally ill patients should be enabled to use their professional judgement on such matters as the timing and dosage of pain-relieving drugs (DHSS, 1986, para. 1.3). A report published in 1987, *Nursing in the Community – A Team Approach for Wales* (Welsh Office Information Division, 1987), which examined community nursing services in Wales, also recommended that nurses should be able to prescribe from a limited formulary.

The government responded positively to the recommendations of the Cumberlege Report in a health circular, *Community Nursing Services and Primary Health Care Teams* (DHSS, 1987). The White Paper, *Promoting Better Health: the Government's Programme for Improving Primary Health Care* (DHSS, 1987), published at the same time, announced the government's intention to consult the standing medical, nursing and midwifery, and pharmaceutical advisory committees about the professional and ethical implications of prescribing by nurses with a view to producing guidance. Those committees agreed to nominate members to *The Advisory Group on Nurse Prescribing*, a joint working group led by Dr. June Crown. This group was to advise the Secretary of State on how nursing care in the community might be improved, by enabling some nurses to prescribe certain items, and to suggest which categories of items might properly be prescribed, ordered, or supplied by nurses, and in what circumstances. The group was also asked to make recommendations on the circumstances in which a nurse might vary the timing and dosage of drugs.

No specific research design was outlined in the *Report of the Advisory Group on Nurse Prescribing* (DH, 1989), also known as *Crown 1*. Information was provided through written and oral submissions and supplemented by a number of fact-finding visits to community nursing staff, managers and educationalists by the professional secretariat. The group had hoped to be able to support the case for nurse prescribing by referral to experiences in other countries, but they were unable to find reports of similar experiences in countries with comparable health care systems (DH, 1989).

*Crown 1* recommended that nurses holding a district nurse or health visitor qualification should be able to prescribe from a limited formulary. Practice nurses who held either of these qualifications were also included. It also recommended that doctors and nurses should collaborate in drawing up group protocols to facilitate the easy supply of medicines to groups of patients with similar needs (e.g. immunisations) and, in a similar system of protocols specific to individual patients, permit nurses to vary the time and dosage of medicines prescribed (Jones, 1999). The group protocol allowed nurses to select and administer drugs to patients, based on their own assessment, without the need to obtain a prescription from a general practitioner (GP), thus cutting out the time wasting element highlighted in previous reports. This practice would also be used within the hospital setting.

The government supported this recommendation and legislative changes amending the Medicines Act enabled these nurses to independently prescribe (Caulfield in Jones, 1999). Subsequently, pilot sites were set up to evaluate the first prescribers at eight sites and were in place by 1994 (see Chapter 4 for results of evaluation). A limited nurse prescribers' formulary (NPF) was devised, allowing the nurses to prescribe all over-the-counter medications and nine prescription-only medicines (DH, 1999).

The recommendation regarding the use of protocols was brought into sharp focus when the family planning forum of the Royal College of Nurses (RCN) questioned their legality in 1996. Legal opinion sought by the RCN, the United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC) and the Department of Health could not support the use of group protocols in lieu of an individual prescription where prescription-only items were concerned. This caused widespread concern, since much healthcare delivery was dependent upon the use of group protocols, in particular the mass measles, mumps and rubella (MMR) immunisation campaign of 1995 (Jones, 1999). In view of this, the Department of Health invited Dr. June Crown to undertake a second review of prescribing issues, this time examining both the protocol issue and the extension of prescribing rights to other professional groups (Jones, 1999). The protocol issue was to take precedence and to be reported upon within six months.

The overall objective of the review team was that any change in practice by health professionals should result in improved or equal health outcomes for patients, with improved convenience or more appropriate practice (DH, 1999). The criteria of all proposed changes were assessed under the categories of health outcomes and patient safety, patient choice, patient convenience, professional appropriateness and effective use of resources. Data was collected through dissemination of a consultative document to a large number of organisations and relevant professional journals. To examine the 750 submissions received, a number of subgroups were set up, each chaired by a team member, and based on different patient needs, i.e., healthy people, people with chronic conditions, people with serious illness requiring emergency care and people with mental health illnesses. Members of the subgroups came from a wider range of backgrounds than the team itself (DH, 1999).

The South East Institute of Public Health was commissioned to conduct a literature review on current prescribing practices, to include supply and administration in both the UK and other countries. The team also corresponded with a number of regulatory bodies on the topic (DH, 1999).

### **Group Protocols/Patient Group Directions**

The first part of *Crown 2* dealt with the group protocol issue and was published separately (DH, 1998). Its terms of reference were to advise on the supply or administration of medicines by nurses and other health professionals under group protocols, and on any safeguards that should apply. The review team recommended that the majority of patients should continue to receive medicines on an individual basis, but that, in limited situations, there was likely to be a need for care under group protocols. The report provided a framework for the necessary components of a group protocol for safe and effective practice. Changes to the law were also recommended to ensure the legality of group protocols (DH, 1998).

A health service circular of 21 April 1998 stated that all group protocols should comply with the criteria outlined in *Crown 2* and that, to this end, all current protocols be reviewed immediately (National Health Service Executive, 1998). The Department of Health and the Medicines Control Agency issued a consultative document outlining proposals to allow certain groups of health professionals to supply medicines to patients in accordance with a group direction in specified healthcare settings. The legal term for group protocol was changed to a patient group direction (PGD) and defined as:

"Specific written instructions for the supply and administration of named medicines or vaccines in identified clinical situations. It applies to groups of patients who may not be individually identified before presentation for treatment. Patient group directions are drawn up locally by senior doctors, or if appropriate dentists, pharmacists and other health professionals." (UKCC, 2000, p. 5)

Those health care professionals qualified to supply or administer medicines under a PGD include nurses, midwives, health visitors, optometrists, pharmacists, chiropodists, radiographers, physiotherapists, ambulance paramedics, dieticians, occupational therapists speech and language therapists, prosthetists and orthoptists (NHS Modernisation Agency-Changing Workforce Programme and Department of Health – Core Prescribing Group, 2005). Each professional must be individually named in the PGD for the authority to use the PGD for patient care. Initially the use of PGDs was not extended outside of NHS organisations. However since 2003 many non-NHS organisations are authorised. These organisations include:

- Defence medical services
- Independent hospital organisations and clinics (registered under the Care Standards Act 2000)
- Police services
- Prison healthcare services.

Healthcare staff working in emergency care said that the development of PGDs had been onerous and the Department of Health responded in two ways. First, it set up a website, supported by the NHS Executive, with examples of PGDs that had been approved at various health trusts and could be adapted to suit individual needs (DH, 2004b). Second, it developed national templates to assist trusts in preparing PGDs for use in emergency care (DH, 2004b). In addition, the National Prescribing Centre has published *Patient Group Directions – A practical guide and framework of competencies for all professionals using patient group directions* (NPC, 2004).

Most licensed pharmacy, general sales list and prescription-only medications can be supplied or administered under PGD, and the Department of Health has outlined restrictions for antimicrobials, black triangle, and unlicensed and controlled drugs. Owing to public health concerns, the Department makes it clear that a microbiologist or public health specialist should be involved in drawing up a PGD for antimicrobials. Black triangle drugs and unlicensed medications can be included in PGDs only in exceptional circumstances.

Initially, controlled drugs were excluded from the scope of the PGDs, as they are regulated under the *Misuse of Drugs Act 1971* and associated regulations under the Act. However, the Home Office in 2003 amended this legislation to allow for some controlled drugs in specific clinical areas to be supplied under PGDs. Schedule 4 substances (with the exception of anabolic steroids) and all substances within Schedule 5 can now be supplied and administered under a PGD. Diamorphine (a Schedule 2 medication) can be used within A&E and Coronary Care Units by nurses who are specially trained in its use. This initiative to make wider use of the PGD system is part of the government's plans for modernising the NHS, and improving patient care by providing more efficient access to medicines (DH, 2003a).

### Extended Independent Prescribing

The final report of *Crown 2* recommended that the legal authority in the UK to prescribe should be extended beyond currently authorised prescribers (health visitors and district nurses) to all registered nurses and other health professionals. As a result of a recommendation in *Crown 2*, a New Prescribers Advisory Committee was established under the Medicines Act to assess submissions from professional organisations seeking prescriptive authority for their members (DH, 1999).

The report also recommended that the new prescriber should not normally prescribe certain drugs e.g. controlled drugs, unlicensed medications and antibiotics. With the enactment of legislation in 2001, nurses working in minor ailment, minor injury, health promotion and palliative care were allowed to prescribe independently from an expanded but still limited nurses' prescribing formulary (included approximately 140 prescription only medicines). Since up to 30% of GP consultations were for minor injuries and ailments, the Department of Health concluded that, by extending prescribing authority to nurses working within these areas, the workload of doctors would be reduced.

The Medicines and Healthcare Products Regulatory Agency (MHRA) and the Department of Health produced a joint consultative document (MLX 293) that sought views on wider proposals to extending nurse prescribing (DH, 2003b). At the request of the Secretary of State for Health, the Chief Nursing Officer sought the help of the Joint Committee on the Safety of Medicines (CSM) and the Medicines Commission Working Group to consider how nurse prescribing could be extended further.

The new proposals sought to extend the treatment areas and the type of conditions and make amendments to the prescriptions only medicines (POM) Order. Reflecting recommendations from the CSM, and the subsequent

public consultation, the extended nurse prescribers formulary was expanded further in June 2004 to include a broader number of conditions outside of the four previously outlined in *Crown 2*, and included circulatory, endocrine, gastrointestinal, immunisations, respiratory and urinary. These extensions allowed nurses to prescribe over 180 prescription-only medicines.

A subsequent consultation document was circulated by the MRHA and DH in April 2004 (MLX 303) proposing to further expand the list of POMs with the addition of controlled drugs especially for areas of pain relief in midwifery, palliative care and treatment of acute myocardial infarction. Recommendations from the CSM and ministerial views were considered as part of this comprehensive process and in May 2005 legislative changes occurred which resulted in over 35 additional health conditions and 50 + medications added to the Nurse Prescribers Extended Formulary. It included two new categories of health conditions; central nervous system and infections. Meningitis, acute myocardial infarction, tetanus prophylaxis and treatment are some of the emergency type conditions that can now be treated by nurses thereby reducing the burden on accident and emergency staff. Controlled drugs such as morphine for acute severe pain following trauma, and diazepam for recurrent generalised tonic-clonic seizures, were also added (MHRA, 2003).

Work continues to progress on independent prescribing by extended formulary nurse prescribers with another consultation exercise (MLX 320) conducted in spring 2005. The purpose of undertaking this most recent consultation was to examine the options for the future of Extended Formulary nurse prescribing because an evaluation of nurse prescribing conducted by the University of Southampton for the Department of Health found that the medication formulary was seen to be restrictive by nurses and some doctors in benefiting patients and contributing to efficient health care practices. Stakeholders were asked to consider five options for the future development of Extended Formulary nurse prescribing. One of the options involved nurses at an advanced practice level being given additional authority to prescribe if they had fulfilled particular criteria for "specialist nurse status". This option signifies a differentiation of competencies required for nurses for independent prescribing. Views were also sought on restrictions if any for controlled drugs to be prescribed independently by nurses (DH, 2005a).

### Supplementary Prescribing

*Crown 2* also recommended the introduction of a new form of prescribing, to be undertaken by non-medical health professionals after a diagnosis had been made and a Clinical Management Plan drawn up for the patient by a doctor. The report used the term *dependent prescribing* for this activity; this has since been superseded by the term *supplementary prescribing* (NHS Modernisation Agency and DH, 2005). This extension of prescribing was initially confined to nurses and pharmacists – the two largest non-medical professions – where maximum benefit could be expected for patient care (DH, 2005b). The working definition of supplementary prescribing is:

"A voluntary prescribing partnership between an independent prescriber (a doctor or dentist) and a supplementary prescriber, to implement an agreed patient-specific clinical management plan with the patient's agreement." (DH, 2005b).

In April 2003, amendments to the *Prescription Only Medicines Order* and changes to NHS regulations allowed the introduction of supplementary prescribing for registered nurses, midwives and pharmacists. Training for nurses began in early 2003 and there are currently over 3,300 nurse supplementary prescribers. Pharmacists have also begun training and, by early 2005, some 290 were qualified to act as supplementary prescribers. Since April 2005 chiropodists/podiatrists, physiotherapists and radiographers have also been authorised to train as supplementary prescribers (DH, 2005b).

These prescribers are legally allowed to prescribe from a wider range of drugs than independent nurse prescribers, and are able to manage more complex conditions and chronic diseases such as asthma, diabetes, hypertension, mental health and coronary heart disease after the initial assessment and treatment planning is performed by the medical practitioner (DH, 2005b). There is no specific formulary or list of medicines for supplementary prescribing, and nurses have the discretion to alter dosage, frequency and active ingredients of the medication within the limits of the agreed clinical management plan.

A public consultation was conducted in July 2003, with proposals to amend the *Misuse of Drugs Regulations 2001* to authorise prescribing of controlled drugs under supplementary prescribing. The Shipman Inquiry report on the regulation of controlled drugs was referenced in relation to considering this extension. Amendments to the *Misuse of Drugs Regulations 2001* came into effect on 14 April 2005 to enable prescribing of controlled drugs by supplementary prescribers (nurses and pharmacists) (DH, 2005b).



## Midwives

The legislation pertaining to midwifery practice in the UK is different to that for registered general nurses in that midwives are authorised under legislation to supply and administer specific medications for use in their practices without the need for a prescription (Dimond, 2001). The Royal College of Midwives has noted that midwives can already prescribe and administer a limited range of medicines in their work, and would find it unacceptable if they had to retrain in order to prescribe the same medicines. They said that any new training for midwives should be under the umbrella of continuing professional development (MRHA, 2004).

More recently, in response to MLX 293, the Royal College of Midwives was generally supportive of proposals to extend the range of POMs for nurses, but said that prescribing was not the ideal mechanism to enable midwives to supply/administer diamorphine for pain relief in labour. They instead favoured the use of PGDs or an extension or substitution of pethidine in the midwives exemptions in the POM order (MRHA, 2003). The MRHA has provided detailed information regarding medicines legislation in midwifery practice giving the specific exemptions from restrictions on the sale, supply or administration of certain medications required in the course of midwives' professional practice. Diamorphine and pethidine are included in these exemptions (MHRA, 2003).

## Education

The education and training of the first nurse prescribers, i.e. district/practice nurses and health visitors, used an English Nursing Board video to complete 18 hours of individual study time and a three-day course at a designated higher education institution (Buchan & Calman, 2000). This initial training programme was replaced in early 2004 with a new course that takes place over a three/six month period, including 25 taught days in a university and 12 days when a medical prescriber will provide the student with supervision (NHS & DH, 2005). All first level registered nurses and midwives can undertake the training to prescribe from the Nurse Prescribers Extended Formulary. Candidates are sought from primary and secondary care and the government has set out criteria to identify possible candidates. It has asked local health organisations to prioritise those nurses that meet the criteria on the basis of benefit to patients. The DH has recommended that nurses put forward for training as prescribers should have at least three years post-registration experience (NHS & DH, 2005).

It is open to individual Higher Education Institutions to use approved prior learning (APL), to give credit for a nurse's previous learning, where appropriate. Nurse training for supplementary prescribing is based on that for 'extended formulary' independent nurse prescribers, with the addition of a module covering the context and concept of supplementary prescribing (NPC, 2003). Having completed this education programme and upon registration of their prescribing qualification with the Nursing and Midwifery Council the nurse will be both an independent nurse prescriber and a supplementary prescriber.

## 2.3. United States

Nurse and midwife prescribing has evolved in the US out of the establishment of the advanced practice roles of the nurse as nurse practitioner and nurse-midwife (Towers, 1999). The need for an advanced nursing practice role was first identified in the 1960s as a way to satisfy the health care need for preventative and primary care (Koch, Pazaki & Campbell, 1992). As part of the expanded scope of practice in providing primary care, the ability of the advanced practice nurse (APN) to perform comprehensive health assessments, make clinical diagnoses and prescribe treatments was recognised by health care providers and organisations. For federal and state health care departments and health insurance providers, there was the consideration of the cost-effectiveness of nurse practitioners' (NPs) prescribing, in contrast to medical practitioners, as NPs were typically working in these expanded roles to alleviate the shortage of primary care doctors (Towers, 1999).

Federal and state health care policies have influenced the initiation and development of advanced nursing/midwifery practices across the health care continuum. At federal level, there was no gate-opening policy or legislation for the advanced practice nurse in obtaining prescriptive authority, as nursing and midwifery practice is regulated at state level, and each state legislates differently. It is beyond the scope of this Review to present descriptions, state-by state, of influencing health care policies and subsequent regulations for prescribing.

However, the federal government had an important role in influencing policy. As far back as 1971, the US Department of Health, Education and Welfare recognised that the scope of nursing practice should be extended in order to ensure equal health care access to all individuals. Its report on the study of extended roles for nurses (as cited in Safreit, 1992, p. 417) noted:

"...There is an ever widening area of independent nursing practice entailing nursing judgement, procedures and techniques.... Concomitant with increasingly complex nursing practice is the continual realignment of the functions of the professional nurse and physician...."

The US Congressional Office of Technology Assessment (OTA) published a report in 1986 that established the positive outcomes of NP care in regard to quality, increased accessibility to health care and cost reduction (OTA, 1986), which has contributed to the debate surrounding advanced practice nursing (American Academy of Nurse Practitioners, 1998; American College of Physicians, 1994).

The evolution of the profession of nurse-midwives began in the early 1920s, with organisations such as the Maternity Center Association and the Frontier Nursing Service establishing dedicated nurse-midwives services in response to high mortality rates for mothers and infants. Through these dedicated services, nurse-midwives made a significant contribution towards reducing the numbers of low birthweight infants and improving the mortality rates (American College of Nurse-Midwives (ACNM), 2005).

Federal programmes, such as the National Health Service Corps created in 1970 to fill a need for primary care clinicians in rural communities and inner-city neighbourhoods, have actively supported the introduction of nurse practitioners in under-served areas. Medicare and Medicaid (two programmes administered at state and federal government levels to provide health care to eligible individuals) have acknowledged the value of the advanced practice nurse/midwife providing quality, cost-effective health care by mandating reimbursement for their services. These programmes, together with consumer demand and preference, have contributed to the growing numbers of advanced practice nurses and have pushed the agenda for legislative and regulatory changes to enable these practitioners to prescribe for their patients.

Initially, in states where nurses work as nurse practitioners, legislation was introduced to allow them to prescribe medications under the rules and regulations of the regulatory Boards of Medicine and Nursing (Pearson, 2001). Originally, prescriptive authority for APNs was limited to a dependent/collaborative model, whereby the physician either delegated the responsibility of prescribing to the nurse or else signed the prescription. Prescribing authority then progressed to allowing over-the-counter medications and a limited number of prescriptive drugs, on a formulary to be initiated and written by the nurse practitioner. As growing numbers of APNs began to deliver care in a diversity of settings, individual states revised their legislation to approve more expanded dependent practices with the use of state-wide formularies. These often limiting formularies have since been replaced in many states by collaborative practice agreements between the medical practitioner and the APN (Fennell, 1991; McDermott, 1995; Pearson, 2003; Towers, 1999).

Fennell (1991) has examined the relationship between the midwife and physician surrounding prescribing and has outlined the statutory status of prescribing. The author provides a history of the nurse-midwife and medical practitioner relationship and the professional identity of the nurse-midwife, with reference to leading professionals who have published on this subject. The legal authority to practice and prescribe is comprehensively described and substantiated by federal and state government legislation. Fennell (1991) summarises that, although legislative changes in states gave certified nurse-midwives increased and independent authority to prescribe, there were still obstacles, mainly the lack of uniformity of definition of terms in federal and state statutes and the restrictions of the scope of prescribing practices.

McDermott (1995) presents a general overview of the issues surrounding prescriptive authority, including the complexity of state-to-state regulations and the decisions by health care professionals (non-nurses) who are involved in determining scope of practice and prescriptive authority for APNs. McDermott (1995) undertook a literature review of relevant professional journals, print media, government and professional releases, and concluded that the ability of APNs to prescribe is made more difficult because of increasing managed care and because individual states seek to create their own health care policies rather than working towards a national healthcare agenda.

Towers (1999) provides a summary of the development and progress of nurse prescribing in the US, with particular reference to education, law and activism by nurse practitioners. Towers highlights the constraints facing the advanced practice nurse in securing independent prescriptive authority, including the intra and inter professional and legislative barriers and sees a need for active lobbying. She states that the dedicated involvement of the profession with the statutory/legislative process to push forward the agenda for independent prescribing is key to its success.

The authority of the APN in prescribing medications and treatments continues to evolve in the US, especially with regard to controlled substances, since state regulations determine what may be prescribed by the advanced practice nurse (Pearson, 2001). The American College of Nurse-Midwives, in its document on basic principles for midwifery licensure (ACNM, 2003), advocates that, when states are considering regulations of midwifery licensure, the authority for certified midwives (CMs) and certified nurse-midwives (CNMs) to prescribe should be contained in state practice acts, and should not be limited by formulary or schedule of medications.

The annual summary of APN legislation, published by the American Academy of Nurse Practitioners (Pearson, 2003), contains various prescribing models used by APN. At present, 13 states and the District of Columbia authorise APNs to fully prescribe, independently of the medical practitioner including controlled drugs (Phillips,



2005). Reasons for this autonomous authority are attributed to the political influence of APNs in the legislative process, the geographic location of the nurses' practice settings (predominantly in medically under-served and rural areas), and the increasing acceptance by medical practitioners of the positive contributions of APNs in meeting the health care needs of the population (Pearson, 2001; Towers, 1999). Thirty-three states require medical practitioner involvement or delegation for writing the prescription for APNs to prescribe, which includes controlled drugs. Four states do not allow the APN to prescribe controlled drugs although they have the authority to prescribe other drugs but only with a doctor's participation (Phillips, 2005). This may involve state mandated requirements for collaborative practice agreements amongst doctors and APNs. These requirements may stipulate that written or verbal practice agreements, and/or require specific supervision guidelines by medical practitioners be developed to support the prescriptive practices of the APN.

APNs who are granted prescriptive authority by the relevant state regulatory bodies are required to have undergone extensive education in pharmacology, physical assessment, clinical decision-making and diagnostic skills at a graduate, master's level (ACNM, 1998; American Academy of Nurse Practitioners, 1998; Pearson, 2003). In many states, national certification and continuing education requirements, some involving specific unit hours in pharmacology, have been included in the regulatory policies for nurse prescribing. The hours for these courses may vary from state to state (McDermott, 1995; Pearson, 2003). Examples from three states are provided below, as they represent the diversity of requirements and standards from state legislatures and regulatory nursing, medical and pharmacy organisation for prescriptive authority.

Colorado regulations for APN nurse prescribing require the APN to have completed an approved graduate level programme for advanced practice nursing, with a minimum of 45 hours of the following content: advanced health/physical and psychological assessment, pathophysiology and psychopathology and pharmacology. Postgraduate experience of more than 1,800 hours as an APN in the immediate five-year period is also necessary in order to prescribe. These nurses and midwives employ a collaborative model of prescribing, which outlines the responsibilities and duties of the APN and physician, the terms regarding consultation and referral and a method to ensure that suitable prescribing practice by the APN is in place. However, the law clearly states that, "nothing shall be construed to limit the ability of the APN to make independent judgement, require supervision of a physician or require use of formularies" (Pearson, 2001, p.12).

The state of Idaho requires completion of an approved APN programme, with 30 hours of pharmacology and national certification in the individual's area of speciality practice. The APN has independent prescribing authority, including licence to prescribe and dispense controlled substances appropriate to their defined scope of practice (Phillips, 2005).

In New Jersey, practising Advanced Nurse Practitioners who seek prescribing rights must use jointly developed protocols with a collaborating medical practitioner. The protocol lists:

- Categories of medications that are appropriate to the practice
- Requirements for keeping records of medications prescribed or dispensed
- Dosages
- Frequency
- Duration
- Instructions for use
- Any medical conditions or assessment findings within the scope of the practice that require direct consultation before prescribing medications
- Identification of the communication methods employed by the APN and collaborating physician (Pearson, 2003).

The protocol between the APN and physician is for the purposes of prescribing and does not extend to a collaborative agreement for general practice (Phillips, 2005).

The National Council of State Boards of Nursing (NCSBN) (2002), proposed in its position paper on the regulation of advanced practice nursing that:

"Prescriptive authority should be within the scope of the license to practice and only granted upon completion of substantial pharmacotherapeutic course work and clinical supervision of prescribing in the master's program. If prescriptive authority requirements are met after program completion, a preceptorship/specific clinical hours, continuing education or clinical supervision component should be added." (NCSBN, p. 1).

It has encouraged each state to consider the basic requirements for prescribing to ensure the competency and safe practice of advance practice nurses and midwives.

## 2.4. Canada

It is difficult to analyse the nursing role of advanced practice and accompanying prescriptive authority in Canada, since there is great variability owing to regulation at both federal and provincial levels (de Leon-Demare, Chalmers & Askin, 1999). Essentially, nurses who are able to prescribe in Canada are either working as nurse practitioners in primary care or in an advanced practice role in remote and isolated regions. The role of the advanced practice nurse (nurse practitioners and clinical nurse specialists) has evolved since the 1970s in various stages throughout Canada. The implementation of prescribing rights for nurses has not occurred on its own but as part of the role of the nurse practitioner and the role of nurses working in remote and isolated areas with indigenous communities. It is therefore necessary to describe its implementation as part of the development of these roles.

A report on *The Nature of the Extended/Expanded Nursing Role in Canada* (Centre for Nursing Studies, 2001) said that the policy and legislative frameworks governing nursing practice in the extended/expanded role were variable across provincial/territorial jurisdictions. The report said that this extended/expanded role has evolved without a consistent policy direction and is highly dependent on local circumstances. While traditionally the authority of nurses in performing primary care functions has been through delegated medical functions, four jurisdictions have enacted legislation to legitimise the extended/expanded role.

A discussion paper by the Canadian Nurses Association (CNA), describes the development of the nurse practitioner in Canada as being due to a number of related issues that were prominent in the late 1960s. Specifically, there was the changing role of the nurse, a perceived shortage of doctors and the effects of a trend toward specialisation by doctors (CNA, 1993). Fewer doctors were entering general practice, which was viewed as lesser importance than specialism in the profession. Over 50% of all doctors in Canada were working as specialists at this time (de Leon-Demare et al., 1999). As a consequence, the Department of National Health and Welfare established a Committee headed by Thomas Boudreau to conduct a major review of the health services. The review included a study of the role of the nurse practitioner in the Canadian health services (Nurse Practitioners Association of Ontario (NPAO), 2005).

The main recommendation of the Committee's report (Boudreau Report, 1972) was that the development of the nurse practitioner category be regarded as the highest priority in meeting primary health care needs in Canada. It also recommended that pilot or demonstration projects should be developed and appropriately evaluated. The federal government supported these recommendations and programmes for nurses in expanded roles emerged across the country, many funded by the government. These recommendations were also supported by the Lalonde Report (1974), which, in examining the concepts of primary health care, recognised the integral role of the registered nurse, specifically in health promotion and disease prevention (NPAO, 2005).

Another report, *The Nurse Practitioner in Primary Care* (Ministry of Health and Long-Term Care Ontario, 1975) made recommendations for legislative changes and remuneration issues for the nurse practitioner (NPAO, 2005). The Committee for this report consisted of 60 health professionals, who reviewed the role, need, educational preparation, legal status, and remuneration for the nurse practitioner in primary care.

A joint policy statement by the CNA and the Canadian Medical Association (CMA) supported the expanded role of the nurse, stating that the responsibility of certain activities of doctors could be delegated to nurse practitioners (NPAO, 2005). Following the implementation of the report's recommendations, a number of evaluations on nurse practitioner practices were conducted and the findings consistently demonstrated their practice to be safe, cost-effective and acceptable to patients (de Leon-Demare et al., 1999).

During the 1970s, the expanded role of the nurse continued to be debated by nursing organisations across the provinces. However, cutbacks within the Department of Health in the early 1980s saw an end to the nurse practitioner programmes (CNA, 1993). There was also staunch opposition from the medical profession. The previous projection of doctor shortages never materialised and nurse practitioners were now viewed as competing with doctors and providing a lower quality of care (de Leon-Demare et al., 1999). In addition, there was little support from within the nursing community itself for this expanded role, based on findings from a national survey conducted by the CNA. Many of the 3,000 nurses interviewed saw the role of nurse practitioner as merely that of an assistant to the doctor, as opposed to an expansion of the nurse's role, and many nursing leaders rejected the notion of the nurse practitioner altogether (de Leon-Demare et al., 1999).

In the 1990s, the health care system across Canada underwent dramatic change as federal transfer payments were reduced, provincial governments restructured their health care systems, and the focus of health care moved increasingly to the community. The Minister for Health announced a new nurse practitioner initiative, as part of improving access to primary care. This reintroduced nurse practitioner education programmes and changes in legislation (NPAO, 2005). In direct response to the requests and concerns of the nursing profession, the Minister set up a Nursing Task Force to identify how changes in the profession had affected the delivery of care and to

recommend how the provincial health system could be improved through its nursing services (Ministry of Health and Long-Term Care Ontario, 2001).

The Task Force recommended that health care delivery be enhanced immediately through nursing services by stabilising the nursing workforce, improving retention of existing nursing and providing ongoing structured opportunities for RNs and registered practical nurses to participate in a meaningful way in decisions that affected patient care on both a corporate and operational level. In response, the Minister of Health allocated Canadian \$375 million to the nursing profession (NPAO, 2005). In 2005 the Canadian Health Services Research Foundation established a nursing chair for ten years, specifically to advance a research agenda which involved an evaluation of the nurse practitioner role and outcomes of nurse practitioner care.

Whilst these changes have taken place, a distinct difference has remained regarding prescriptive authority between those working as nurse practitioners in primary care and those working in isolated areas. Nurses in federal employment have been able to prescribe since the early 1990s as part of their delivery of care in meeting the health needs of remote, isolated and indigenous communities. In the First Nations and Inuit Health Branch (FNIHB), nurses with an expanded scope of practice can prescribe drugs in accordance with the guidelines provided in the Nurses Drug Classification System (Health Canada, 2001a). This formulary classifies drugs prescribed by nurses based on the requirement for medical practitioner consultation, or treatment initiated by the nurse, treatment length and other variables (Buchan & Calman, 2000).

Clinical practice guidelines have also been developed for use by federally employed nurses working in remote areas to aid them in the practices of diagnosing and prescribing. These guidelines are divided into 15 sections, and each includes an assessment (history and physical examination) of the body system in question, along with clinical practice guidelines on common disease entities and emergency situations in that system (Health Canada, 2001b). The educational programme for these nurses is a postgraduate 16-week course involving clinical skill development.

Competencies for nurses practising in an expanded role have also been developed to identify additional educational requirements for advanced practice including prescribing. The Competency Assessment Program for community health nurses working with FNIHB was designed by Health Canada to provide a competency assurance to the public through appropriate professional background, education and assessment of these nurses. All nurses who have graduated from a FNIHB-recognised community health nursing programme and/or clinical skills programme since 1997 are required to complete this assessment (Health Canada, 2001b).

A number of provinces have legislated for prescriptive authority for specially trained nurses and others are in the process of doing so (Government of Newfoundland and Labrador, 2005). Ontario was the first province to introduce legislation and an extended class (register) of nurses was created for qualified RNs to be registered as primary health care nurse practitioners (PHCNP) with independent prescribing authority. The programme is offered to degree (which will extend over 12 months, full-time) and diploma-prepared nurses (24 months) who have at least two years' full-time primary care nursing practice within the past five years. Ontario's 602 RNs (EC) (extended class) have been performing these duties since February 1998 (College of Nurses of Ontario (CNO), 2004a). The role of the nurse practitioner in acute care (adult and child health), continues to evolve in Ontario, with over 300 nurses practising. However, the regulatory framework, including the structure for prescriptive authority, is not yet established. The CNO proposes that the acute care nurse practitioner be registered in the Extended Class register similar to the PHCNP and a consultation process began in early 2005 with key stakeholders on this subject (CNO, 2005).

In Alberta, extended-practice nurses had been authorised to prescribe under legislation and by their provincial regulatory body in certain circumstances up to 2002. In June 2002, following pressure from the professional nursing organisation (Alberta Association of Registered Nurses (AARN)) to further expand prescriptive authority in more populous areas, the *Registered Nurses Providing Extended Health Services Regulation* under the *Alberta Public Health Act* expired and was replaced with the *Nurse Practitioner Regulations* under the *Public Health Amendment Act* (2002).

The 1996 *Registered Nurses Providing Extended Health Services Regulation* used the term *extended practice nurse* for registered nurses who possessed specific additional qualifications to diagnose, treat and prescribe in their practice. The 2002 revision has replaced this title with *nurse practitioner*. Nurse practitioners can now practice within a variety of care settings and are no longer limited to remote and underserved communities. They are allowed to diagnose and treat health problems and can order, perform and interpret diagnostic tests and prescribe the same drugs as a physician, except for narcotics and controlled substances as governed by federal legislation (AARN, 2003a).

Following consultation with practitioners and other stakeholders, the AARN have revised the *Competencies for Registered Nurse Providing Extended Health Services (1995)* to *Nurse Practitioner (NP) Competencies Statements (2002)* to more accurately reflect the present legislative structure. Additional requirements and standards for

nurse practitioners in independent practice will be developed through future consultation. Entry to the Extended Practice Roster requires that the nurse has completed a baccalaureate degree in nursing (initial or post-diploma); has completed the equivalent of three years' full-time practice (approximately 4,500 hours) as a registered nurse; and has completed a nurse practitioner education programme that addresses all of the AARN Nurse Practitioner Competencies (AARN, 2003b).

Newfoundland's nurse practitioners are authorised to prescribe a range of medications for a variety of conditions and also have prescriptive authority during emergencies, such as acute asthma attacks (Sibbald, 2000). A registered nurse on the Extended Practice register of the College of Registered Nurses in Manitoba must be issued a prescriber number from Manitoba Health to prescribe medications relevant to his/her scope of practice. Additional specifics for prescriptive authority are outlined in the Province's Registered Nurses Act (College of Registered Nurses in Manitoba, 2005).

Other provinces are, similar to Manitoba, at varied stages of development in legislating for advanced nursing practice and some have come up against major opposition. In particular, the Medical Association in British Columbia have expressed its opposition to nurse practitioners prescribing an unlimited listing of medications stating that these nurses do not have the level of knowledge and application of pharmacology and pharmacotherapeutics acquired by a doctor (British Columbia Medical Association, 2005).

Despite this opposition, the government recognises the importance of nurse practitioners in helping to improve and modernise patient services and launched a new programme of nurse practitioners in 2003 (Ministry of Health Services, 2003). As part of this programme, the Registered Nurses Association of British Columbia (RNABC) and the Ministry of Health Planning are working together to educate, regulate and deploy NPs in 2005. The core competencies have been developed jointly for three streams of practice in family, adult and paediatrics. The Board of Directors of RNABC approved the *Standards for Nurse Practitioners Prescribing and Dispensing Drugs* and *Standards for Nurse Practitioner Physician Consultation* in January 2004. These will be used, in addition to the competencies, to approve the education programmes.

The first of these programmes, for the family NP commenced at two universities in September 2003 and are at master's level. Students are expected to graduate in 2005. The RNABC is in the final development stages of registration and intends to begin registering NPs in mid 2005 once the necessary regulations are completed. (RNABC, 2005). The British Columbia Medical Association has continued to express concerns about the nurse practitioner role and recently requested that the Minister of Health convene a working group to review these regulations prior to registering any individuals (RNABC, 2005).

Midwifery is a rapidly growing profession in Canada and the legislation and models of midwifery care are diverse across the country. Some provinces or territories have midwifery legislation, and others are in the process of developing it (Canadian Association of Midwives, 2005). Midwifery practices that have been regulated have varying degrees of autonomy and prescriptive authority. Ontario was the first province in Canada to regulate and legislate midwifery and the profession has since been regulated in British Columbia, Alberta, Manitoba and Quebec (Canadian Association of Midwives, 2005).

The education preparation to support midwives varies greatly throughout the provinces. For example, midwives in Ontario (who have undergone a four-year educational degree programme) have an approved scope of practice that allows them to independently administer or prescribe drugs or other substances which are required for their clients, whether in the community, hospital or sites of midwifery practice (College of Midwives of Ontario, 1994). In all cases, the independent use of medicines must fall within the scope of midwifery practice.

In 2001, the University of British Columbia developed a four-year direct-entry degree programme in midwifery and, upon completion, midwives are authorised to prescribe a restricted number of medications appropriate for safe obstetrical care. The University of Quebec offers a similar degree programme. In Alberta, midwives are government-regulated health practitioners and, within their scope of practise, they may prescribe medications, order diagnostics, and admit to hospital. The education programme is modelled on the Ontario programme and is a BA degree in midwifery. However it is not yet up and running due to a lack of funding (Alberta Association of Midwives, 2005).

Another method used to prescribe in Canada, albeit dependently, is through the use of medical directives. A medical directive is defined as a physician's order, applicable to a range of clients who meet certain conditions, and strict guidelines are provided for the directives (CNO, 2004b). A directive identifies the specific medication, the specific condition that must be met, and any specific circumstances that must exist before the directive can be implemented. Quality practice settings, in collaboration with physicians and other health professionals, determine which circumstances are acceptable for the use of medical directives and the policies that reflect these decisions (CNO, 2004b). Until recently, the use of standing orders was common practice, but this is no longer supported by either the CNO or the College of Physicians and Surgeons of Ontario. Previously, a standing order was implemented for every client regardless of the circumstances, with no expectation that the person

implementing it would judge its appropriateness. Health professionals now recognise that knowledge, skill and judgement are critical for this process and medical directives have replaced standing orders (CNO, 2004b).

## 2.5. New Zealand

Nurse prescribing has developed in tandem with the role of the nurse practitioner (Nursing Council of New Zealand, 2001). In 1999, the New Zealand government approved authority for limited prescribing for defined scopes of advanced practice nursing in aged care and child family health. These areas were identified for the introduction of prescribing and advanced practice as a result of the findings of the *Review of New Zealand Citizens Health Care Needs*, published by the New Zealand Ministry of Health.

A wide consultative process took place with the public, public health sector and other key stakeholders with the main conclusion that improvements were needed in the delivery of primary care (New Zealand Ministry of Health, 1997). Aged care and child family health scopes of practice were chosen because of the potential benefits that were likely to result from the extension of nurse prescribing in these areas. Benefits were outlined particularly in relation to improved flexibility in the delivery of health and disability services for their children (and their families) and older people, and improved access to treatment for these groups in provincial and rural areas (New Zealand Ministry of Health, 1998).

The *New Zealand Medicines Act 1981* was amended in 1999 to enable a new class of designated prescribers the authority to prescribe. The model of prescribing practice introduced was autonomous, without supervision of a medical practitioner. The legislation allowed initially for general sale (over-the-counter), pharmacy only and restricted medicines (New Zealand Ministry of Health, 1998). The Ministry of Health also established regulations for the development of the specific scopes of practice of aged care and child family health.

The Ministry charged the Nursing Council of New Zealand with responsibility for establishing the competency requirements of advanced speciality practice, experience and training of nurse practitioners having the authority to prescribe, and to maintain a register for such persons, encompassing a continual review of competency and disciplinary procedures for those practising outside their competencies (Nursing Council of New Zealand, 2001). The Nursing Council requires a person applying for nurse practitioner and prescriber registration to have a minimum of four to five years in a specialist area and have undergone the equivalent of master's level of education within a higher education institution that has been approved by the Council. The recognised courses for preparation for this advanced role include:

- Clinical Assessment
- Differential Diagnosis
- Physiology
- Pharmacology
- Therapeutics
- Prescribing
- Advanced Nursing Practice Skills

(Hughes & Lockyer, 2004).

A New Prescribers Advisory Committee (NPAC) was established under the regulations to extend prescribing authority to health care providers, and its duties include reviewing applications from regulatory organisations seeking prescriptive authority for its members and providing recommendations to the Minister of Health regarding such matters (Hughes & Lockyer, 2004). Other scope of nursing practice areas, sexual and reproductive health and occupational health and mental health, have submitted applications to the New Zealand government for prescribing authority since the first group of nurses were approved (New Zealand Ministry of Health, 2002a). Optometrists and the sexual and reproductive health nurses have been granted approval of their application by the Committee.

The original changes made to the medicines legislation in 1999, which provided a defined schedule of prescription medicines and controlled drugs for use by the new prescribers, were further amended in April 2004. The new regulatory structure allows all new prescribers legal access to all pharmacy-only, prescription and general sale medicines listed in the medicines regulations. As a result of the amendments, each registration authority (such as the Nursing Council of New Zealand) will be responsible for the approval of the listing of medications for prescribing for each designated scope of practice. They have the additional responsibilities for the development of clinical guidelines and a system for monitoring and auditing the authorised prescribers' practice (Hughes & Lockyer, 2004). A consultation document was issued in April 2005 by the Nursing Council of New Zealand seeking submissions on the schedules of medications that nurse practitioners with prescriptive authority will be able to use within their practice area (Nursing Council of New Zealand, 2005).



Similar to Ireland, the advanced nursing practice movement in New Zealand is in its infancy, with 14 nurse practitioners approved in posts as of June 2005 (Nursing Council of New Zealand, 2005).

Midwives in New Zealand have been regulated by the national government and the Nursing Council to prescribe medicines since 1991 (New Zealand Ministry of Health, 1997). The educational requirements for midwifery prescribing are included in the basic three-year bachelor of midwifery programme, or the one-year post registration advanced diploma for registered nurses. The midwife is authorised to prescribe any medicines that have relevance to midwifery care and these can be prescribed from conception up to the six-week postnatal check. This open practice of prescribing is the result of the government's recognition of the scope of practice for prescribing authority at the time and there were no specific requirements for additional education, training or competencies for midwives to prescribe.

Interestingly, the New Zealand Working Group for Nurse Prescribing, in their review, highlighted this as a practice not to be repeated, as there was no public debate on midwifery practices pertaining to prescribing (New Zealand Ministry of Health, 1997). In contrast, the NPAC in its recommendations to the Minister of Health on extending limited prescribing authority to others noted that midwifery prescribing with full access to the pharmaceutical schedule resulted in minimal prescribing of medications outside of their scope of practice (New Zealand Ministry of Health, 2004).

The New Zealand College of Midwives has published prescribing guidelines for its members that outline the principles of prescribing within the recognised scope of midwifery practice (New Zealand College of Midwives, 2002). The Ministry of Health and the Nursing Council have recently decided to establish a separate regulatory organisation for midwives, thereby removing the Nursing Council of New Zealand's authority to regulate midwifery practice. It remains to be seen if this new body will define the standards or scope of practice for prescriptive authority for midwives, as has been done for nurse practitioners.

Many health care individuals use medication protocols and standing orders in New Zealand for everyday delivery of care (New Zealand Ministry of Health, 2000). The Ministry of Health and members of the health care sector expressed concerns about the standards of some of these standing orders, such as the completeness and use of evidence based practice and whether they were authorised under the New Zealand medicines legislation. The Ministry issued a public consultative document on the development of regulations to set out the minimum requirements for standing orders (New Zealand Ministry of Health, 2000). On the basis of submissions received, legislation was passed in December 2002 and *Guidelines for the Development and Operation of Standing Orders* were published (New Zealand Ministry of Health, 2002b). The New Zealand Nurses Organisation (2002) has also provided guidance and information specific to nurses using standing orders which provides minimum requirements and accountabilities. An audit of this practice can be conducted from 'time to time', and fines of up to NZ\$500 may be imposed for non-compliance with the regulations (New Zealand Ministry of Health, 2002b).

## 2.6. Australia

There has been an expansion of the scope of practice and limited prescriptive authority of nurses and midwives in many areas of Australia, in order to improve health care delivery in rural, outback and under-served areas, which have suffered from unavailable or poorly accessible medical services. Throughout Australia, the individual states are responsible for determining prescriptive authority for nurses and midwives. Some, such as Victoria, New South Wales, West Australia and South Australia, have examined nurse prescribing within the scope of practice of the nurse practitioner (Royal College of Nursing Australia, 2002).

Recent amendments to Western Australia's *Nurses Act* have marked the way for the introduction of nurse practitioners by way of defining the two distinct processes that must be followed: role development of the NP and designation of the area for practice. Through the *Nurses Amendment Act, 2003*, the Nurses Board of Western Australia established the *Nurse Practitioner Code of Practice, 2003*, which addresses such issues as the prescribing of medications, ordering of routine diagnostic and pathology studies, all within the scope of the designated area's clinical protocols (Department of Health Western Australia, Office of the Chief Nursing Officer, 2003a).

A model of collaborative practice has been implemented. Although the NP can work independently within the designated areas, this right does not extend to independent practice. The scope of practice of the NP is limited by the clinical protocols developed through a multidisciplinary effort, which require approval of the Director General of Health for that specific designated area. The template produced by the Department of Health Western Australia, Office of the Chief Nursing Officer, for clinical protocols, gives extensive direction and definition for their creation and this includes the requirement to provide details on the formulary of drugs that are likely to be prescribed for the clinical presentation outlined in the clinical protocol (Department of Health Western Australia, Office of the Chief Nursing Officer, 2003b).

The Department of Human Services of the government of Victoria has reviewed the role of the nurse practitioner for prescribing within a limited role and is facilitating the development of a prescribing formulary and guidelines that take account of the divergent scopes of practice for nurse practitioners. The Victorian Nurse Practitioner Task Force, in its report published in 1999, concluded that, within the context of advanced practice for certain nurse practitioners, and in order to deliver an appropriate level of treatment for some patients as part of their continuity of care, the legal right and responsibility to initiate medications (which includes diagnosis, prescribing, supply and administration) is necessary (Victorian Nurse Practitioner Taskforce, 1999). Explicit guidelines for educational preparation, clinical experience and skills have been developed as a result of the work of the Task Force. Targeted areas have included emergency care, women's sexual and reproductive health, diabetes mellitus and primary health care – rural health (Victorian Nurse Practitioner Project, 2004).

In the Australian states, the development of the NP role has been recent, although New South Wales (NSW) has been further advanced than others in the approval process, with 43 registered as of June 2004 (Nurses and Midwives Board of New South Wales, 2005). The authority to prescribe medications has been extended to these nurse practitioners, and the NSW Department of Health in its *Framework for Implementation of Nurse Practitioner Services in NSW (2001)* presented the original details for this practice. The *NSW Nurses Act, 1991* was amended in 1999 to allow the Nurses Registration Board to approve a person to be entitled to practice as an NP; this incorporates midwives seeking to practice as NPs. The applicant is required to have appropriate knowledge and skills for safe prescribing. However, the legislative authority to prescribe is derived from the *Poisons and Therapeutic Goods Act, 1966*, which provides for the Director General of the NSW Department of Health, through the approval of written guidelines, to allow nurses practitioners to possess, use, supply or prescribe any poison or restricted substance in their professional practice. This does not include drugs of addiction (Nurses Registration Board of New South Wales, 2003). The guidelines, as mandated by the Director General, and in accordance with the *Nurses Act*, effectively determine the scope of practice for prescriptive authority by these advanced practice nurses.

The approval process for nurse practitioner clinical guidelines is rigorous and requires the applicant to show evidence of 5,000 hours of advanced practice over the past six years that are relevant to the broad area of practice identified by the Board. An applicant must either attain a master's degree or go through a second pathway which involves a "package of evidence" comprised of a detailed curriculum vitae and case study presentation and a review by an independent multidisciplinary team of health care providers (Nurses Registration Board of New South Wales, 2003).

The state of Queensland has implemented a unique approach to expanding nurses and midwives practices of medication management that allows for advanced educated nurses to initiate medical interventions without a doctor's orders. Health Management Protocols (HMPs) and Drug Therapy Protocols (DTPs) have been established through law to provide a regulated mechanism for health service providers to meet the needs of the population, particularly in rural and remote areas, for medications and medical treatments. *The Health (Drugs and Poisons) Regulation 1996*, outlines the conditions under which a registered nurse, for the purposes of practising nursing, can administer and/or supply, controlled or restricted drugs and poisons. This does not authorise nurses to prescribe, as they are restricted to using the HMPs and DTPs.

Queensland Nursing Council describes the HMP as the clinical care guidelines for the endorsed nurse that support and detail the clinical use, including administration and/or supply, of drugs listed in a DTP. They are developed or adopted by an interdisciplinary health team that is appointed by the employer in the area in which the HMP will be used. A DTP is certified by the Chief Executive of Queensland Health, who states the circumstances and conditions for the person who may act within the protocol to use a listed medication (controlled, restricted or poison) for the defined purpose (Queensland Nursing Council, 1999). These protocols were developed for rural and isolated practices, and the specialties of sexual and reproductive health and immunisation programmes. They cover an extensive range of health conditions and associated medical interventions that are detailed in the *Primary Clinical Care Manual* used by the nurse in practice (Queensland Health and Royal Flying Doctor Service, 2001).

Registered nurses must successfully complete a course accredited by the Queensland Nursing Council in order to qualify for the endorsement that enables them to use the HMPs and DTPs (Queensland Nursing Council, 1999). In its December 2003 newsletter, the Council said that 363 nurses held this endorsement and stated:

"This extra qualification enables nurses to provide timely and advanced care for a variety of medical conditions." (p. 22).

The regulation of midwifery practices varies considerably among Australia's eight states and territories (similar to the situation in the US states). In recent years, government and professional reports have examined the delivery of midwifery services, provision of education and mechanisms of regulation to aid the development of national uniform standards. The National Health and Medical Research Council (NHMRC) in *Options for Effective Care in*

*Childbirth* (1996) provided the impetus for a study into current midwifery practices, notably the interpretation and ordering of diagnostic studies and medication management practices extending to prescribing. A working party was established to undertake this review and, over a two-year period, conducted an evaluation of current practice of midwives working in public hospitals.

The report of the working group, *The Review of Services Offered by Midwives* (NHMRC, 1998), found that there were divergent practices of ordering and interpreting diagnostic studies and prescribing of medications that were not necessarily supported or authorised by state legislation and/or midwifery regulation. This underlined the legal and professional difficulties that midwives faced in the absence of regulation.

The report recommended that state/territory governments acknowledge the current practices of midwives ordering medications during prenatal, labour and postnatal experiences. It said that the authority of midwives to prescribe medications and diagnostic studies, and subsequently interpret results for uncomplicated cases of maternity care, should be seen as accepted element of public maternity services (NHMRC, 1998). On prescribing and diagnostic studies, the report described the tests and medications that should be included through agreed protocols; the importance of developing collaborative relationships amongst midwives, medical practitioners, pharmacy and other relevant stakeholders to create and implement these protocols for prescribing; and the need for regulatory authorities, in association with professional and educational organisations, to devise the academic preparation and assessment of competency.

There has been additional research on midwifery education and practice. The most notable has been the Australian Midwifery Action Project (AMAP) (Leap & Barclay, 2001), a three-year study funded by industry, the Australian Research Council and the Australian College of Midwives Incorporated. The Australian Health Workforce Advisory Committee (AHWAC) prepared a report (2002) on the midwifery workforce. Both reports concluded that there was a lack of nationally agreed and employed standards for midwifery education, as well as a lack of national regulatory requirements for practice as a result of each state/territory devising its own.

Leap and Barclay (2001) identified the variances in the educational preparation for midwives. The length of the academic course varied from a minimum of 26 weeks to a maximum of 48 weeks for full time study. Course content differed. The titles of award included bachelor of midwifery, Master of Science and postgraduate diploma, with a number of universities offering a three- year bachelor degree for direct entry from year 2002. The regulatory requirements for each state/territory, with the exception of NSW, required a recency of practice of five years for midwives, with a self-declaration of competence. Auditing of midwifery practice was performed in only three areas (South Australia, Tasmania, and Northern Territory), and two (Queensland and Western Australia) were considering it (AHWAC, 2002).

Both the government and professional organisations at national and state/territory level are addressing the differing standards for education and regulation. The Australian College of Midwives, for example, has provided guidelines (2003) for midwives for consultation and referral with medical practitioners. The guidelines do not mention prescribing or medication management but they identify a need for promoting collaboration and coordination of care within expanded midwifery practice.

The National Maternity Action Plan (NMAP) group has called for a reform of maternity services and has put forward a plan for state and national governments to initiate community services delivered by midwives in urban and regional/rural areas. (NMAP represents leading consumer and midwifery groups across Australia: the Maternity Coalition, AIMS (Australia), the Australian Society of Independent Midwives, and Community Midwifery WA Inc, 2002). The plan recognises that national standards for prescribing by midwives are necessary to realise the extensive reforms proposed.

## 2.7. Sweden

Nurse prescribing was first proposed in Sweden in 1978. District nurses practising in health care and medical care settings outside of hospitals have had prescribing authority from the government since 1994, following a pilot scheme in 1988 involving 38 district nurses in one area of Sweden who were trained to prescribe a limited number of medications (Wilhelmsson, Ek & Åkerlind, 2001). Decentralised medicine, where more patients were being treated in a community setting, and a shortage of doctors in North Sweden were the driving forces for nurse prescribing (Buchan & Calman, 2000). District nurses are authorised to prescribe medications in certain indications, eliminating the need for the nurse to make a differential diagnosis (Johansson, 2002 pers. comm., 3 March). These nurses, who possess a postgraduate qualification (completion of 40-50 credits) and additional pharmacology training (10 credit course), may prescribe over 230 medicinal products for over 60 areas of condition, including dermatology, infection, nutrition, wound care, incontinence and bowel care.

In 1997, the government evaluated the prescribing practices of these district nurses, and this showed that they had been very cautious in prescribing during the initial years of the programme (Socialstyrelsen, National Board of Health and Welfare, 1997). This was due to a number of factors: not all district nurses were qualified to



prescribe, and there was resistance from some medical practitioners. The evaluation showed that there had been a number of positive results, including improved nursing care, greater understanding of problems related to medication, better communication with other professions regarding patient needs, some medical treatments by a doctor proving unnecessary as the nurse was able to deal with them, and choosing non-pharmacological interventions (Socialstyrelsen, National Board of Health and Welfare, 1997). As a direct consequence, the government has recently extended prescribing authority to nurses working in local authorities in the care of the elderly.

Midwifery education in Sweden consists of three years of nursing education, followed by a minimum of one year of clinical practice as a registered nurse, and then 18 months of specialised training for midwifery (Ragnar, Tydén & Olsson, 2003). Midwifery practices utilise both independent and collaborative models of prescriptive patterns, most prominently in family planning, with the prescribing of oral contraceptives. The Swedish government, in its 2001 *Health Care Report*, (Socialstyrelsen, 2001), examined many areas of midwifery care as concerns had been raised about the quality of maternity care owing to staff shortages, closure of smaller maternity units and economic factors. However it did not address midwifery prescribing.

## Summary

The international experiences of prescribing and expanded medication management by nurses and midwives in the United Kingdom, United States, Canada, New Zealand, Australia and Sweden were reviewed. The influencing factors of increasing specialisation of the professions (especially the development of the advanced nurse practitioner), decreasing numbers of medical practitioners and the need to improve health care accessibility for underserved individuals have all contributed to these countries introducing prescriptive authority for nurses and midwives. The historical, political and economic components of these processes were considered in association with the legislative and regulatory frameworks implemented for prescribing by nurses and midwives.



## CHAPTER 3

# Competency Frameworks

### 3.1. Background

Competence is defined as the ability of the registered nurse/midwife to practise safely and effectively, fulfilling his/her responsibility within his/her scope of practice (An Bord Altranais, 2000a). It is a complex, multidimensional phenomenon. Pearson, et al., (2002), in their study of continuing competence and the regulation of nursing practice in Australia, noted from their review of the literature that competence has been viewed on a spectrum, from an accomplishment of a list of tasks to providing an appropriate level of professional practice in a diversity of circumstances. Competence is a critical core element within the scope of practice for registered nurses and midwives. The objective of a competency framework is to ensure that students acquire the skills of critical analysis, problem-solving, decision-making, reflective skills and abilities essential to the art and science of nursing (Ryan, 2001).

An Bord Altranais has established national competencies as part of the *Requirements and Standards for Nurse Registration Education Programmes* (An Bord Altranais, 2000c). It is a broad enabling framework to facilitate the assessment of pre-registration student nurses' clinical practice and use of theoretical knowledge. These competencies are also intended to be used by health care organisations and nurses involved in the provision of a transition programme as part of the assessment process of nurses who have been educated and trained in non-European Union countries, prior to registering with An Bord Altranais.

The domains of competence for nursing practice approved by An Bord Altranais are:

1. Professional/ethical practice
2. Holistic approaches to care and integration of knowledge
3. Interpersonal relationships
4. Organisation and management of care
5. Personal and professional development.

### 3.2. International Experiences

Governmental health care, nursing and midwifery organisations in other countries have developed competency frameworks for nurses and midwives for safe professional practice (Australian Nursing and Midwifery Council, 2004; Australian Nursing Federation, 2000; College of Midwives of British Columbia, 1997; National Council of State Boards of Nursing and National Organisation of Nurse Practitioner Faculties, 1998; National Organisation of Nurse Practitioner Faculties and American Association of Colleges of Nursing, 2002; National Prescribing Centre, 2004a, 2004b, 2001; Nursing Council of New Zealand, 2001, 1999). Many of these organisations have given special attention to the activity of medication management, particularly prescribing, within the individual competency structures.

The Nursing Council of New Zealand, in conjunction with the New Zealand College of Midwives, created standards and competencies for registration for midwives in 1999, to ensure public confidence in the abilities of the midwife to provide effective and safe midwifery care. Competencies were devised within accompanying explanation and performance criteria that make specific reference to medication management through the application of comprehensive theoretical and scientific knowledge, with the practical skills for safe and effective midwifery care. These criteria address the requirement of the midwife within her/his scope of practice and relevant legislation, to safely and appropriately demonstrate the ability to prescribe, supply and administer medicine, vaccines and immunoglobulins (Nursing Council of New Zealand, 1999).

The Nursing Council of New Zealand, in its *Framework for Post-Registration Nursing Education* (2001), established standards and competencies for advanced nursing practice programmes. It identified nurse prescribing as an advanced nursing practice, with competencies outlined. The nurse seeking prescriptive

authority applies professional judgement in assessment, diagnosis, implementation, collaboration, referral and prescribing, with the objective of providing advanced nursing care. These competencies are detailed in an explicit manner for the nurse practitioner for prescribing interventions, appliances, treatments and authorised medications within the scope of practice.

The advanced skills, knowledge and expertise needed to practice as a nurse practitioner are acknowledged by additional competencies, including defining the scope of independent/collaborative nursing practice and demonstrating expertise through the use and interpretation of laboratory and diagnostic tests (Nursing Council of New Zealand, 2001). The contribution and participation of nurse practitioners in national and local health and socio-economic policy, and their evaluation of health outcomes, are also recognised as essential competencies for practice. So, too, is the ethical, legal, bioscience and pharmacological knowledge required to safely and effectively prescribe.

The College of Midwives of British Columbia's *Competencies for the Registered Midwife* (1997) state that the midwife, as a primary health care professional, must be able to provide "responsive holistic care and advice to women and their families during the childbearing experience". This includes possessing the knowledge and skills to prescribe and administer medications and substances as authorised by medicines legislation. Clinical judgement, critical thinking, communication and research skills are identified as key areas of competencies within the midwifery education programme (College of Midwives of British Columbia, 2004)

*Core Competencies for Basic Midwifery Practice*, published by the American College of Nurse-Midwives (2002), contains the fundamental requisites for graduates of nurse-midwifery education programmes. It defines the process of assessment, diagnosis, treatment planning and client management. The fundamentals of midwifery care, professional responsibilities, the primary health care of women, management of common health problems and care of the childbearing woman and newborn care provide the overall structure of these core competencies. The application of knowledge of midwifery practice for gynaecologic care, an example being the management strategies and therapeutics for common gynaecologic problems and family planning needs, reflects the competencies of the ACNM (2002). The competencies related to pharmacology from the ACNM are drawn from these competencies. Knowledge of the pharmacokinetics and pharmacotherapeutics of medicines commonly used in practice must be considered within the context of state legislation in the midwife's practice setting as advocated by the ACNM (2000).

The National Council of State Boards of Nursing (NCSBN) and the National Organisation of Nurse Practitioner Faculties (NONPF) (supported by the Health Resources and Services Administration and Agency for Health Care Policy and Research of the US Department of Health and Human Services) collaborated on a project to develop programme guidelines and regulatory standards for family nurse practitioners in preparation for prescribing in primary care. Their report, *Curriculum Guidelines and Regulatory Criteria for Family Nurse Practitioners Seeking Prescriptive Authority to Manage Pharmacotherapeutics in Primary Care*, provides comprehensive course and programme competencies, along with an outline for curriculum content for pharmacotherapeutics, which is defined as the use of medications in the prevention, diagnosis and treatment of diseases and modification of physiology (NCSBN and NONPF, 1998).

The intended purpose of the *Curriculum Guidelines* is to define the standards of competence for a family nurse practitioner in pharmacology/pharmacotherapeutics. Unlike other competency frameworks described earlier, it does not incorporate other domains of nursing practice, and its focus is on pharmacotherapeutics. However, the *Curriculum Guidelines* give reference to patient/client education and involvement in treatment planning, the legal and ethical standards of prescribing, the consultative process with other health care professionals and the appropriate monitoring of medications (NCSBN and NONPF, 1998).

The NONPF continued to build upon its earlier work on competencies for nurse practitioners (1990 and 1995), and joined with the American Association of Colleges of Nursing (AACN) in developing national accorded competencies in the speciality areas of adult, family, gerontological, paediatric and women's health. These competencies are built upon seven domains of advanced practice that describe the role of the advanced practice nurse in:

- The management of patient health and illness
- The patient relationship
- Education
- Professional responsibilities
- Auditing of quality health care practices
- Managing and navigating systems of health care delivery
- Cultural and spiritual competence

(NONPF and AACN, 2002).

Prescribing and medication management competencies are specified in the NONPF core competencies, and centre on the ability of the advanced nurse to prescribe appropriately and safely within legislation, and effectively utilise the prescribing process in tandem with the integration of knowledge of medication actions (i.e. absorption and metabolism) (NONPF and AACN, 2002).

The competency framework also covers individualising treatment and medication plans based on relevant personal client characteristics such as age, culture, gender and illness, and the ability to detect and minimise adverse reactions to drugs. As a continuation of this work, the NONPF and the AACN further delineate the competence for prescribing in the speciality practice areas of adult, family, gerontological, paediatric and women's health (NONPF and AACN, 2002).

In the UK, the National Prescribing Centre (NPC) collaborated with the RCN, the English National Board for Nursing, Midwifery and Health Visiting and the United Kingdom Central Council for Nursing and Midwifery and Health Visiting in 2001 to produce an outline framework to assist nurse prescribers in maintaining or attaining the necessary competencies to ensure safe and effective prescribing practices. This framework is in three separate but overlapping sections:

- The consultation, which incorporates the competencies of clinical and pharmaceutical knowledge, the diagnosis and treatment planning and communication with clients
- Effective prescribing, encompassing safety, professional accountability and auditing of prescribing practices; prescribing in context refers to the use of critical review of information, understanding and compliance with local and governmental policies
- The competence of collaboration and partnership with other members of the health care team.

Prescriptive authority for nurses in the UK is not limited to advanced practice nurses, as is the case in the US, New Zealand and areas of Canada (American Academy of Nurse Practitioners, 1998; CNO, 2004; DH, 2005a; Nursing Council of New Zealand, 2001). The competency framework document produced by the NPC (2001), for nurse prescribers, *Maintaining Competency in Prescribing – an Outline Framework to Help Nurse Prescribers*, has sections on the background of nurse prescribing and an introduction to competencies. Its objective is to facilitate nurses who prescribe as an extension of their current nursing practice. It also emphasises the individualisation of the competencies for local practice areas and aims to enlist the support of the health service managers in assisting nurse prescribers to use the framework for continued professional development and identify specific training needs.

The competencies developed by the professional and regulatory nursing and midwifery organisations to support prescribing (typically within an advanced practice model) share many concepts in setting the standard for guiding programme/curriculum development, reflecting current practice and addressing continuing professional development needs. These shared themes are listed in Table 1.

**Table 1. Shared Themes and Content of Competency Frameworks for Prescribing**

Assessment of patient – physical exam, history taking, psychosocial information, risk factors
Involvement of patient with treatment plan
Interpretation of laboratory & diagnostic tests, techniques & tools
Pharmacology – therapeutics, dynamics, kinetics, adverse reactions, interactions
Bioscience – anatomy, physiology, microbiology, pathophysiology, epidemiology
Adverse drug & medication error reporting
Clinical decision-making
Collaboration/referral with other health care professionals
Prescribing effectively & safely
Treatment planning
Prescription writing & documentation
Community/public health
Ethics – code of professional conduct, informed consent, vulnerable populations, drug promotion
Critical review & self audit
Legal issues & current legislation relevant to advanced practice and prescribing
Information sources
Continuing professional development

The competency frameworks form the basic requisites for graduates of nursing and midwifery education programmes, providing guidance to educationalists in preparing students for advanced clinical and professional practice. The individual nurse/midwife is given a comprehensive tool to continually assess his or her own knowledge and competency as a practitioner. The competencies also serve as guidelines for other health care professionals, employers, policymakers and clients concerning the essential skills, professional standards and knowledge of a nurse/midwife who is authorised to prescribe.

The international competency frameworks for advanced practice nurses/midwives who prescribe, and the competencies produced by An Bord Altranais as part of the standards for nurse registration education programmes, might usefully provide the critical requirements to develop competencies for prescribing by nurses and midwives in Ireland. The shared concepts of the international frameworks, coupled with the five established domains identified by An Bord Altranais, were employed in this Review in devising competencies for collaborative prescribing for nurses and midwives in the pilot study.

## Summary

The concept of competence as described by An Bord Altranais (2000a) is the ability of the registered nurse/midwife to practise safely and effectively, fulfilling his/her responsibility within his/her scope of practice. National competencies are defined within the *Requirements and Standards for Nurse Registration Education Programmes* (An Bord Altranais, 2000c). Other countries have developed competency frameworks for professional nurses and midwives with many providing comprehensive competencies for advanced practice and prescribing. There are shared themes and content for these frameworks for prescriptive authority, enabling educationalists to prepare students who can use them in their professional practice to assess their own knowledge and competence. The domains of competence established by An Bord Altranais were coupled with the international frameworks to devise the collaborative prescribing competencies for the pilot study of this Review.

## CHAPTER 4

# Research Studies on Nurse Prescribing

### 4.1. Introduction

The use of patient outcomes in the evaluation of health care has been sporadic, often discipline-specific, and commonly focused on physician practice (Johnson et al., 2000). There has also been much debate regarding the definition of what exactly constitutes an 'outcome'. A generally accepted definition by Donabedian (1988), defines outcome as "a change of status confidently attributable to antecedent care". A more comprehensive definition has been refined in a nursing context by Heater et al., (1988) as "...the effects of interventions provided by a nurse that produced measurable responses in relation to identified criteria" (from Read & George, 1994). For the purposes of this Review, an outcome is defined as the effect of a nursing intervention on an individual or group of patients and on the wider health service and where the nursing intervention is prescribing.

Since prescribing involves an expansion of practice by nurses and midwives, this Review has examined the research studies on nurse prescribing which has been conducted from a quality and regulatory perspective. With an expansion of practice, the issue of accountability is important, as nurses and midwives are required to be professionally accountable for their practice. In exercising their professional accountability, they must act in accordance with the guidelines in the *Code of Professional Conduct for each Nurse and Midwife* (An Bord Altranais, 2000d). They can ensure that their practice is in keeping with these standards through involvement in quality assurance (QA) programmes. These programmes not only enable the identification of errors but also provide the nurse with tools to identify opportunities to further improve patient care (Schroeder, 1991, in Marr & Giebing, 1994).

The implementation of QA programmes can contribute significantly to professional development. The requirements for nurses involved in them are:

- To conduct insightful assessments of their areas of practice while researching and writing scope of care
- To demonstrate accountability as they determine aspects of patient care that are essential to their areas of expertise
- To apply basic research techniques as data-gathering strategies are designed and conducted
- To communicate with peers and colleagues in other disciplines as the results of quality assurance activities are analysed and reported throughout the organisation

(Schroeder, 1991).

These requirements complement the competencies proposed previously for nurses and midwives who are considering prescribing. The use of a quality model enables the systematic recording of the outcomes of nurse and midwife prescribing practices. Maxwell's (1984) model of quality provides a useable theoretical framework in which to measure these outcomes, and describes six dimensions required for quality. These are:

- Effectiveness – the service achieves the intended benefit for the individual and for the population
- Efficiency – resources are not wasted on one service or patient to the detriment of another
- Equity – there is a fair share for all the population
- Accessibility – services are not compromised by undue limits of time or distance
- Acceptability – services are provided such as to satisfy the reasonable expectations of patients, providers and the community
- Relevance to need – the service or procedure is what the population or individual actually needs.

The research studies to measure the effects of nurse prescribing for patients, health professionals and the wider health service were reviewed using Maxwell's framework. There has been a paucity of substantial research

conducted within the area (Buchan & Calman, 2000; Rosenaur et al., 1984). Although the introduction of nurse prescribing has generated some spirited discourse, the literature has mainly centred on examining theoretical arguments for and against. The introduction of nurse prescribing has been a slow process, limited to a few countries, with the result that most of the studies examined here were conducted in the US and, more recently, in the UK.

This research has many limitations. Much of the early work on nurse prescribing has been described as flawed, owing to a lack of methodological rigour (Horrocks et al., 2002; Jordan, 1993). This Review found few randomised controlled trials. The majority of studies used qualitative methods and, by necessity, used small samples and single sites, so their conclusions should be viewed in this context. However, whilst bearing these shortcomings in mind, the main research findings were consistent between the randomised controlled trials and the observational studies and therefore merit inclusion in this Review.

Studies on nurse prescribing have been conducted principally in the primary care setting, where the need for this role has been greatest internationally (Buchan & Calman, 2000; Towers, 1999). There are a few studies conducted in secondary care speciality areas and these are also reviewed. Nursing titles used in the studies vary enormously between countries (Buchan & Calman, 2000). Moreover, some studies were conducted to evaluate the effectiveness of nurses compared to doctors in the delivery of patient care, but are relevant to this Review where prescribing was evaluated as part of their practice. Likewise, many studies considered more than one of the thematic categories used for the presentation of the outcomes below and so are not mutually exclusive. Most of the studies to evaluate nurse prescribing have focused on the patient, the nurse and other health professionals, mainly medical practitioners.

Eight themes were identified in examination of these studies which, when viewed from a regulatory perspective, encompass the principles of providing effective, safe and ethical nursing care (An Bord Altranais, 2000d; Australian Nursing and Midwifery Council, 2002; College of Nursing of Ontario, 2002; National Council of State Boards of Nursing, 2005; Nursing Council of New Zealand, 2004; Nursing and Midwifery Council, 2004;).

The themes were:

- Appropriate and safe prescribing
- Patient satisfaction
- Convenience and greater accessibility for patients
- Nurses as information providers
- Improved medication compliance by patients
- Less pharmacological interventions
- Appropriate clinical decision-making
- Cost-effectiveness.

These themes, and the associated studies, are examined separately, but should be viewed as being inter-related within the scope of nurse/midwife prescribing.

In addition to examining these outcomes, it is pertinent to review a number of studies that have been conducted with nurses who do not yet have prescriptive authority and were asked about their needs and perceptions on this expansion of practice within a variety of practice settings.

## 4.2. Need for Nurse Prescribing

There have been a number of studies conducted to evaluate the need for prescribing by nurses who do not yet have this authority. This focus is a helpful one for healthcare agencies, as they can identify where the real need is, for which patient groups, what the benefits would be and what supports the nurse prescriber would need. Most nurses in these studies agreed on what was important to support this practice, such as formal and informal mechanisms. They also saw teamwork, peer and doctor support as necessary to support nurse prescribing (Latter & Courtenay, 2004). The studies have all been conducted in the UK, with the exception of one in Australia.

A number of the studies were conducted in psychiatric nursing. Allen (1998) conducted a postal survey on the opinions of psychiatric nurses on advanced practice roles in psychiatric nursing. A random sample of 100 members of the Network for Psychiatric Nursing Research (UK) was contacted and there was a 78% response. Sixty eight percent said they were employed by trusts and 18% by universities. The results found that nurses were cautious about nurse prescribing, which the author noted, was significantly different to that of the current RCN position and from responsibilities given to advanced nurse practitioners in psychiatry in the US. The survey also found that university-employed nurses were more in favour of full prescriptive powers, which might indicate that nurses removed from direct clinical practice may be cautious about entering unfamiliar territory (Allen, 1998).



Nolan, Haque and Badger (2001) also examined the perceptions of mental health nurses about the advantages and disadvantages of prescribing, and the educational needs of mental health nurse prescribers in the UK. A convenience sample of community mental health nurses at a conference for nurse prescribing (110 questionnaires, 66% response) were asked if they thought nurse prescribing would benefit clients and patients. The nurses identified four distinct areas where they considered prescribing might be beneficial - minor mental illness, severe mental illness, general health maintenance, and overall patient care. Other benefits mentioned were ease of access to medication, improved prescribing practice, improved quality of care, and enhancement of the holistic approach. On the disadvantages of nurse prescribing, the nurses cited fears of litigation, increased responsibility and workload, inter-professional conflict, lack of remuneration for this role, and the appropriateness of trading-in some of the traditional roles of nurses to fill gaps left by GPs and junior doctors shortages. They said that the wholehearted support of medical staff was needed if nurse prescribing were to succeed (Nolan et al., 2001).

Hemingway et al., (2001), distributed a questionnaire to 2,250 community mental health nurses through the *Mental Health Nursing Journal* (UK), and had an 11% response rate. The aim of this survey was to ascertain the perceived role of community mental health nurses in prescribing and in the management of psychotropic medication for their clients. The results showed that most respondents were in favour of having prescriptive authority but there was a divide between wanting dependent or independent prescribing (Hemingway et al., 2001). Most nurses expressed the need for training, both at pre-registration (73%) and through a separate course (77%). There were no differences on age or years of experience between those who viewed independent prescribing as a positive development and those who did not, but males were more likely than females to view independent prescribing as more effective.

Those in favour of independent prescribing saw it as therapeutic, enhancing their role as carers, and not political. Those with reservations about independent prescribing referred to increased responsibility and added legal implications. Hemingway et al., concluded that prescribing involved complex issues that need to be planned for. For example, the development of this role should be focused on the users; support systems must be in place after training; and financial remuneration was needed to validate this extended practice (Hemingway et al., 2001).

A similar study, conducted by McCann and Baker (2002) in Australia, examined the implications of the community mental health nurse being given authority to prescribe medications as part of a nurse practitioner role. The sample of 24 community mental health nurses (rural, community, and regional in New South Wales) was divided into two groups: those who supported limited prescribing and those who wished to see the status quo maintained. The two groups were similar in gender, length of clinical experience and type of academic qualifications. Those in favour of prescribing said that it should be embedded within their scope of practice, and education should be part of a postgraduate course, with clinical supervision and support from experienced prescribers. They also saw the need for legislative changes and a nurses' formulary. Professional indemnity insurance would also be required as they could be exposed to litigation. They should have financial reimbursement through their salary. They stressed that the impetus for introducing this practice should be the needs of patients and not nurses.

Those favouring the status quo said that they were satisfied with their existing caring role and saw problems with extending it further. Prescribing would only increase their workload, was exploitation of nurses and was not being introduced in the interests of patients. They also doubted if the required level of clinical supervision and support would be provided (McCann & Baker, 2002).

Nurses in other specialities within the hospital setting have been surveyed about prescribing authority. Jackson (2000), in a survey of dermatology nurses, sought the views of British Dermatology Nursing Group members. The survey showed overwhelming support for the development of nurse prescribing in dermatology, and many of the participants indicated a clinical need for nurse prescribers in their area of practice.

Gibson et al., (2002) conducted a telephone survey of children's clinical nurse specialists and an email survey of ward sisters and ward-based nurse practice educators regarding an expanded role. No differences were found between the responses of the three groups. All groups (n=47) made it clear that they wanted to prescribe only drugs that were routinely used in their specialist area. They also stressed the requirement of clinical experience in order to prescribe. The advantages mentioned were quicker and more effective discharge for their patients, less time wasted for patients in an emergency and improved continuity of care. Disadvantages cited were the lack of support from medical staff, taking on the role of the doctor and reducing families' contact with their GPs (Gibson et al., 2002).

Within general practice, Ogilvie (in Jones, 1999) surveyed a convenience sample of 84 practice nurses within the local health authority. There were 38 responses (a 45% response rate). Most questions were on medication management but the nurses were also asked whether they would wish to prescribe and whether they would undertake a programme of further study for prescribing if the opportunity became available. They were also

questioned about the benefits of prescribing. An overwhelming majority of nurses (95%) responded that they would wish to prescribe. When asked what they would consider to be the minimum level of education required for a practice nurse to prescribe, most responded that two or more qualifications/levels of education should be the minimum. The most recurring choices were that the nurse should be a registered general nurse at degree or diploma level with extra qualifications in his/her speciality and who had also undertaken a module in prescribing.

The findings regarding the benefits of nurse prescribing were grouped into four main categories: time saving, better patient care, increased professional standing and cost saving. Nearly all nurses foresaw problems. The most common were fear of litigation, patients not seeing a doctor when they should, limitations with the nurses' formulary and possible resistance from GPs. Ogilvie concluded that, while the majority of nurses in this study wanted to prescribe, there was a need for careful preparation. A study by Humphries and Green (2000), using focus groups of nurses taking the prescribing course at the University of Central Lancashire, had similar findings. The sample consisted of 146 health visitors, district nurses and practice nurses, who said that peer support, clinical supervision, and collaboration amongst pharmacists were among the infrastructures required to support nurse prescribing.

Without proper education to enable nurses to meet competencies for diagnosing and prescribing, patient safety could be adversely affected and it was this view that formed the basis of a postal survey of family planning nurses in England and Wales conducted by Tyler and Hicks (2001). A similar view was taken by While and Rees (in Tyler & Hicks, 2001) who claimed that, because the act of prescribing is sufficiently complex, a proper empirical analysis of the education and training requirements for nurse prescribers was an imperative.

Tyler and Hicks (2001) conducted a national training needs analysis survey of family planning nurses in England and Wales, with the aim of profiling the family planning nurse prescriber. A postal survey was sent to all 1,142 current members of the National Association of Nurses for Contraception and Sexual Health. Of these, 388 were returned, a response rate of 34%. The nurses were asked to indicate their level of agreement with fifteen tasks that characterise the role of the nurse prescriber and fifteen training priorities for family planning nurse prescribing development. The results showed that 50% would want to become a family planning nurse prescriber 'very much' and 30% 'quite a lot', with the remainder split between some interest and none. Only 15% of respondents had a degree and 5% a higher degree and the authors suggested that, if eligibility criteria were pitched at academic qualifications and experience, it might impede many nurses from training. Thus, to ensure patient safety "there would have to be some flexibility in terms of entry requirements and/or levels of educational provision if acceptable competence were to be achieved" (Tyler & Hicks, 2001, p. 650).

### 4.3. Appropriate and Safe Nurse Prescribing

Spitzer and medical colleagues conducted the first research trial on nurse prescribing in the 1970s in Ontario, Canada. Known as the *Burlington Trial*, it clearly demonstrated that the nurse practitioner was equal to the physician in their prescribing patterns. This study "marked a watershed in the acceptance of the position of the nurse practitioner/prescriber because it was evaluated using medicine's gold standard evaluation, the randomised control trial" (Jordan, 1993, p. 18). The trial (Spitzer, et al., 1974) reported that the nurse practitioner was comparable to the physician in a number of care variables, including prescribing.

The *Burlington Trial* was conducted between July 1971 and July 1972, in a large suburban Ontario practice of two physicians. A randomised control trial was conducted on 817 patients to assess the effects of substituting two nurse practitioners for the two physicians in primary care practice. In order to be randomised, the investigated patients had to have been a patient of the practice over the past 18 months. A caseload of half that of the physician was considered manageable for each nurse practitioner, and so the patients were randomised on a 2:1 ratio. The resulting cohort was 521 in the physicians' group (control) and 296 in the nurse practitioners' (experimental) group, with a refusal rate of 16%. Quantitative methods were used to assess quality of care, one of which was to evaluate the manner in which 13 common drugs were prescribed (Spitzer et al., 1974, p. 253).

Before the study commenced, the criteria for adequacy in the management of ten indicator conditions and prescriptions of drugs were established by a group of family physicians practising within the area. Indicator conditions were described as the ten most common conditions occurring in primary care, with an outcome that can be affected favourably or adversely by the choice of treatment. These selected conditions and the drugs to be examined were not known to the participants of the trial. In 510 prescriptions analysed, an adequate rating was given to 75% in the physician group and to 71% in the nurse practitioner group, not statistically significant. There were no differences between the groups in physical functioning, social functioning, and emotional functioning (Spitzer et al., 1974). The successful ability of nurse practitioners to function alone with 67% of all patients seen, without adverse effects, demonstrated that they could provide first contact primary clinical care as safely and effectively and with as much satisfaction to patients, as the physician.

More than 30 years later, however, barriers still exist to nurse prescribing, despite the evidence that nurse/midwives are competent prescribers and have not had significant disciplinary actions for misprescribing (Anderson, Gilliss, & Yoder, 1996). The US has a thirty-year history of nurse prescribing in some states, yet fewer than three disciplinary actions per state have been taken in recent years, with some states having none (Anderson et al., 1996). In other reviews, nurses were found to prescribe appropriately and judiciously, with no evidence of indiscriminate prescribing (Beckwitt, 1988; Munroe et al., 1982; Rosenaur et al., 1984).

Cox and Jones (2000) undertook a study to compare the quality of the management of sore throats by practice nurses and GPs. Sore throats were managed according to an agreed protocol devised at local level that allowed practice nurses, following appropriate training, to initiate prescriptions for antibiotics as required. An observational study included all those presenting to the practice over the age of two years with complaints of a sore throat and were recruited over a six-month period. The final sample totalled 435 patients, of whom 247 attended the GP and 188 saw the nurse. The patients were contacted up to a week after their consultation by a researcher and assessed on recovery rates, analgesic requirements, re-consultation rates, and overall satisfaction. Those who were still symptomatic were followed up again 28 days later to assess recovery.

Results of the study showed that prescription rates for both the GP and the practice nurse groups were similar (57% v 55%). However, a comparison of those patients seen only by the nurse with those who were seen first by the nurse and then referred to the doctor showed a notable difference in the number of antibiotics prescribed (42% v 88%). Caution is advised on drawing conclusions from this finding, since this study was not a randomised controlled trial and so differences in outcome may reflect differences in severity of the patient's problem at baseline, with nurses seeing fewer unwell patients than the GP. Likewise, since the only criterion recorded for referral to the doctor was the history of a fever, one could postulate that those referred on to the doctor would be more likely to require an antibiotic and so explain their larger number of prescriptions. Unfortunately, analysis of the data does not address this issue completely. Nevertheless, the study concluded that practice nurses could offer care for sore throats of at least equal effectiveness to GPs and that more patients seen by the practice nurse specifically recalled receiving advice about relieving symptoms than did those seen by the GP.

Another study demonstrating the effectiveness and safety of nurse prescribing was conducted within an in-patient dermatology setting (Cox, Walton & Bowman, 1995). The prescribing decisions of five nurses and three senior house officers (SHOs) were compared to the decisions of two consultant dermatologists working on the ward. Forty-eight patients, who were admitted for treatment of either eczema/dermatitis or psoriasis, took part in the trial. The nurses and doctors had a choice of three possible modes of therapy, which were coded according to type and potency of the preparation. The assessments were then analysed to determine systematic differences and/or discrepancies. Results showed that the number of differences between the nurse and consultant was less than that of the number of differences between the SHOs and consultant (20% v 39%). In four instances, a discrepancy occurred whereby the other team members ordered a corticosteroid two times stronger than the preferred choice of the consultant and, again, the SHO scored higher in discrepancies than the nurse. Whilst the authors recognised that the junior doctors had less experience in dermatology than the nurses, it did not alter the fact that the nurses made more prescribing decisions in line with experienced consultant dermatologists, indicating the appropriateness of their decisions in this specialist area.

Mayes (1996) conducted a study of the prescribing patterns of 41 nurse practitioners with varying caseloads, primarily working in general practice. Each nurse's prescribed medications were categorised and the frequency of prescription was noted. Results showed that the nurse practitioners did not veer outside their scope of practice in regard to the medications they prescribed, which reflected their specific expertise, education qualifications and specific caseload. For example, those nurse practitioners with a population of increased elderly patients prescribed more wound care products and laxatives, compared to nurse practitioners working in an inner city area who, with a large population of young families, prescribed more medications for family planning and children's ailments. These findings pertaining to safe and effective prescribing by nurses in the primary care area are substantiated elsewhere (Myers et al., 1997; Rosenaur et al., 1984).

#### 4.4. Patient Satisfaction

Coulter, Fitzpatrick and Davis (2002), in a review of literature examining patient satisfaction, found that it lacked a concise definition and there was no universally accepted way of measuring it. Patient satisfaction has been described as a multidimensional concept whereby patients will be satisfied or dissatisfied about different aspects of their healthcare and the ways in which it is provided (Grimes, 2003). Grimes (2003) provides some definitions:

- An evaluation by the patient of a received service where the evaluation contains both cognitive and emotional reactions (Fitzpatrick, 1997)
- Reactions to salient aspects of the context and process and results of their experience (Hardy et al., 1996)

- Reactions to the context, process and results of their experiences (McGee, 1998; Pascoe, 1983)
- An individual's positive evaluations of distinct dimensions of healthcare (McCartan et al., 1996)

From a patient's perspective, quality includes access to care, responsiveness and empathy, effective communication, clear information provision, appropriate treatment, relief of symptoms and improvement in health status (Coulter et al., 2002). Patient satisfaction can be measured as an outcome, i.e. satisfaction with health status following treatment, or as a process, i.e. satisfaction with the way care was provided. There are three variables – the personal preferences of patients, their expectations and the realities of the care provided. Patient satisfaction is also influenced by other factors, such as social class (Cohen, 1996), gender (Khayat et al., 1994), age (Cohen, 1996; Fitzpatrick, 1991) and health status (Cleary & McNeil, 1988), but there are conflicting views about their impact (Coulter et al., 2002).

Barber (2001) highlights the importance of providing adequate information to patients on their treatment. About one-third to one-half of patients on long term medication are reported as not following the advice of their prescribers when it comes to taking their medicines. This can prolong suffering and permit needless progression of disease and also has important financial effects. Yearly medicine expenditure by the NHS in the UK is approximately ST£6 billion with 80% being spent in primary care. There are few estimates of the economic consequences of non-adherence to medical advice, but one of the most quoted, cited by Barber, estimated that 1.7% of healthcare expenditure in the US was spent on hospital admissions. Barber stresses the need to communicate with patients and to explain knowledge and views to their satisfaction. If patients are not satisfied with the information received about their medications, questions remain in their mind and they are more likely to become non-adherent (Barber, 2001).

One of the most important outcomes of any change in delivery of health care is the effect on the patient. Merely introducing a new service is no longer acceptable to the public at large, since, with the advent of consumerism, the patient demands, and has a right to, an optimal healthcare service (Leese & Bosanquet, 1995).

Such a view has been supported by many health care jurisdictions internationally and, more recently, has been embraced by our own health care policy. The trend in the development of modern health care is the involvement of patients/clients in the management of their care and treatment. This is explicit in our health care strategy, which makes particular reference to the inclusion of patients/clients in both principles and national goals (DoHC, 2001a). In view of this, any extension of the nurse's role to include prescribing could be considered by the public as a dramatic change and a possible overturning of traditional professional boundaries. Therefore, obtaining their opinions on this change, as the recipients of care from the new prescriber, is essential. A new service must be shown to be acceptable to the patient and to be of a quality at least as good, if not better, than the existing one.

A study by Myers, Lenci and Sheldon (1997) examined the suitability of nurse practitioners in assessing and managing urgent clinical problems presenting to a general practice. During a four-month study, patients, on arrival at the surgery, were given the choice to see either the GP or the nurse practitioner. A total of 1,000 consecutive patients were included in the study. Methods of evaluation involved audio taping the consultation and asking the patients to complete a satisfaction questionnaire.

There were no differences in the two groups of patients based on population characteristics. However, when the study examined the patients presenting clinical problems, it emerged that the nurse tended to see a much greater proportion of patients with general or ill-defined conditions, skin conditions and respiratory complaints. Patient outcomes were examined according to prescription issue rate, referrals, re-attendance and satisfaction.

Results showed that the patients fully supported the policy of offering nurse practitioner consultations. Equally, while the GPs were initially anxious about the NP's new role for safety, medico-legal and patient acceptability reasons, they, too, recognised the benefits. The major advantage identified was that the new service made more time available to them.

The study also found that patients seeing the GP were slightly more likely to receive a prescription than those seeing the nurse practitioner (79% v 64%). The study suggests that this may have been due to the fact that the nurse used a more holistic approach in assessment of the patient and, as a result, used non-pharmacological interventions. Likewise, patients seen by the nurse may have been less ill and so required less intervention (Myers et al., 1997). However, since there was no control on the case-mix, these conclusions were speculative.

While these results indicate that nurse practitioners in general practice can deliver safe and effective care that is acceptable to their patients, the study has its limitations. Only 20 out of 500 patients consented to their consultation being recorded for a qualitative analysis of the reasons why they chose to see the nurse over the doctor, and the study does not state how this data was analysed. Similarly, only the patients that consulted the nurse practitioner were given the patient satisfaction questionnaire. It would have been useful to compare the results of the two different practitioners. It was also a single site and so results cannot be generalised.

Such methodological problems were overcome by Shum et al., (2000), who conducted a multi-centre, randomised controlled trial of five general practices in Southeast London and Kent on a sample of 1,815 patients. The practices represented semi-rural, suburban, and urban settings, and were examined with the aim of assessing the acceptability and effectiveness of a minor illness service led by practice nurses.

Patients were randomly allocated for treatment seeing either a specially trained nurse or a general practitioner. For the purpose of the research, a special training course on managing minor illnesses was devised for the nurses. Following successful completion, they were then able to manage the patients' care and implement the prescribing process by taking the history, performing the physical examination, offering advice and treatment, issuing prescriptions (which required a doctor's signature), and referring the patient on to the doctor when appropriate.

Outcomes were measured on both the patients, the 19 doctors who acted as controls and the five practice nurses. From the latter, information was collected on the patient's presenting complaint, the number of prescriptions written, the proportion of consultations for which advice was recorded by the doctor or nurse, the number of patients referred to the doctors (from nurses), and the length of the consultation (Shum et al., 2000). The main outcome variable was the patient's general satisfaction, as measured with the consultation satisfaction questionnaire (Baker, 1990). This was measured after the consultation and before leaving the surgery. Another questionnaire was sent to the patient two weeks after the consultation, which measured the patient's reported health status, reported compliance with drug treatment, the rating of the quality of explanation and advice given, whether the patient had returned to the surgery, and the patient's anticipated behaviour in seeking health care for the same condition. The response rate was over 75%.

Results showed that patients were significantly more satisfied with consultations given by practice nurses than those given by GPs, with patients scoring the nurse consultations an average of two to eight points higher (mean (SD) score of satisfaction 78.6 for nurses v 76.4 for doctors). Consultations with nurses took about ten minutes, compared with about eight minutes for consultations with doctors. Nurses and doctors wrote prescriptions for a similar proportion of patients (nurses 65.4% v doctors 63.5%). However, nurses reported giving more advice on self-medication and general self-management than doctors (22.2% of nurses to 13.7% of doctors). It should be noted, though, that this made no difference to the patient's intention to self-treat the next time (Shum et al., 2000).

The positive outcomes of the study for nurses who prescribe within a general practice are encouraging. However, while no difference was found between the nurses and GPs in a variety of clinical outcomes, the study was not structured to detect differences in rare outcomes and so could not make conclusive statements on the absolute safety of a nurse-led service. Nonetheless, patients' ratings of their health status in terms of clinical improvement after their visit suggest that the nurses' service was clinically effective (Shum et al., 2000).

Similar results were found in another study, which compared the outcomes of consultations given by GPs and nurse practitioners in 10 general practices in South Wales and South West England (Kinnersley et al., 2000). Nurse practitioners were defined as nurses employed in general practice, who had completed the nurse practitioner diploma course at least one year previously. A total of 1,368 patients were included in the randomised controlled trial, which measured outcomes such as satisfaction, resolution of symptoms and concerns, care provided (prescriptions, investigations, referrals, recall, and length of consultation), information provided to patients, and patients' intentions for seeking care in the future.

Results indicated that, in general, patients consulting nurse practitioners were significantly more satisfied with their care, having been given longer consultation times. There were no notable differences between the groups in terms of prescriptions issued (63% for both doctors and nurses). However, significantly more patients who consulted a nurse practitioner reported that they had been provided with more information regarding the cause of their illness, how to relieve their symptoms, and what to do if the problem persisted. There were no differences for the other outcomes measured.

Horrocks et al., (2002) conducted a systematic review of randomised controlled trials and prospective observational studies, which compared nurse practitioners and doctors providing care at first point of contact in a primary care setting for patients with undifferentiated health problems. The review concluded that patients were more satisfied with their consultation with a nurse practitioner than with the doctor, in both US and UK general practice settings. However, in two randomised controlled trials conducted within the A&E setting, there were no differences in patient satisfaction with nurse or doctor (Cooper et al., 2002; Sakr et al., 1999).

Overall, there has been little or no dissatisfaction on the part of the patient reported in any of the studies examined for this Review. In a qualitative study by Brooks et al., (2001) which focused on the patient's views about nurses prescribing, some patients voiced their concern with the further expansion of nurse prescribing in the UK. Their main reservations were in regard to the nurses' education and whether or not it equipped them to prescribe as well as their medical counterparts. The nurse prescribers who were involved in caring for the patients in this study had completed the original nurse prescribing programme (two days of theoretical



instruction), which has since been extended to 25 days. More comprehensive education may help to alleviate such concerns by the public.

## 4.5. Convenience for Patients

One of the main advantages for patients that have accrued from nurse prescribing has been the amount of time saved and the associated convenience. In a qualitative study of patients treated at a nurse-led unit in the UK, Chapple (2001) noted that, while the patients were in general very happy with their care, some voiced grievances with the inconvenience of having to wait for the GP to sign their prescription following the consultation with the nurse. They found it hard to understand that the nurse could make the diagnosis, write the prescription but then have to ask the doctor to sign it. Biester and Collins (1991) support these findings in their US study of nurse practitioners, which showed that more than half the reported delays in patient treatment were due to the inability of NPs to prescribe.

Delays experienced by patients were one of the main findings in the *Cumberlege Report of Community Nursing in the UK* (DHSS, 1986). The *Cumberlege Report* provided the impetus for the extension of prescribing authority to nurses in the UK, which resulted in the alleviation of delays for patients getting treatment (Luker et al., 1997).

These delays first emerged in a UK study commissioned by the Department of Health and undertaken by Touche Ross (DH, 1991), which examined the expected benefits of nurse prescribing. Interviews were conducted with 129 community nurses, medical and pharmacy staff and 621 questionnaires were also distributed. The study supported the implementation of nurse prescribing, showing that the main benefits were time saving for patients, nurses and the GPs. The study noted in particular the benefits of easier access by the patient to procuring their prescription and an altogether more convenient service if the nurse could prescribe. These time savings were not expected to result in cost savings but were considered central to increased patient satisfaction. However, the study said that this might result in indirect savings, since it had been shown elsewhere that patient satisfaction resulted in better compliance and so reduced expenditure on the health service (Jorm, 2000).

The benefit of nurse prescribing in saving time was also recognised by the main study on nurse prescribing in the UK, the first *Crown Report* (DH, 1989). This report, known as *Crown 1*, is covered elsewhere in this Review. *Crown 1* recommended that, following the enactment of legislation, an evaluation of the first nurse prescribing sites should be carried out. Professor Karen Luker was commissioned to conduct the evaluation of the eight pilot sites, which looked at the benefits to patients, the wider health service and the financial aspects of nurses prescribing.

The pilot sites were selected from each regional health authority, using criteria outlined by the Department of Health. These included a mix of fund-holding practices, a mix of urban, rural and inner city and a range of general practitioner sizes and population ages (under five years and over 75). The evaluation utilised a variety of methods to collect the patients' data. Semi-structured interviews were conducted in the patients' homes before and after the nurses began prescribing. The interviews focused on the methods used by patients to procure their prescriptions and the potential benefits to them once nurses were able to prescribe. Following the nurses' prescribing, the evaluation looked at whether it made any difference to the patients' procurement of prescriptions and their opinions on the nurses' extended role (Luker et al., 1997). Quantitative data was also collected showing which patients obtained prescriptions, and included financial costs, distance and mode of travel. The total number of patients included in the study was 157 at the pre-prescribing stage and 148 at post-evaluation.

The results of the study cited the main benefits of nurse prescribing as time saving, convenience and the more approachable nature of the nurses. "Patients were generally in favour of nurses being able to prescribe, and many remarked that they had saved time because they had received treatment more promptly" (Luker et al. 1997, p. 397). Only a small number of patients (7%) were neutral or did not express an opinion and none were opposed. Many patients who had not benefited personally from nurse prescribing said that they could think of others who might benefit, or situations in the past where nurse prescribing would have been helpful to them. There was also a reduction in the level of anxiety experienced by patients. They said that this anxiety was mainly due to having to depend on others to get their prescriptions, and a feeling that they were 'putting others out' and did not like bothering them (Luker et al., 1997).

A limitation of this study was that the number of patients seen at both baseline and follow-up decreased to only 46, 31% of the total sample. Attrition was due to patients not requiring further treatment, moving to another area or dying since the initial interview. However, while the majority at follow-up had not been interviewed at baseline, the authors argued that they were able to compare the service before and after nurse prescribing, since they had been in touch with the service all along. A further limitation of the study was that the sample sizes at each site were too small to do any extensive analysis or to extrapolate the findings to a wider arena.

## 4.6. Nurses as Information Providers

The communication skill of the nurse in the care of the patient has been found to play a crucial role in making the case for nurse prescribing. Because patients consider the nurse to be more approachable and understanding than the doctor, this has positive consequences for the overall prescribing process (Jorm, 2000).

A qualitative study involving 50 patients (telephone and face-to-face interviews) was undertaken in one primary care group in Leicestershire to explore nurse prescribing from the patient's perspective (Brooks, 2001). All prescribing health visitors (17), district nurses (9), and practice nurses (1) were asked to recruit five of the most recent patients they had prescribed for (total population = 135), with the final sample amounting to 50 patients. The study results identified the quality of the relationship between the nurse and patient as an important factor in this new role for nurses. Participants were positive about nurse prescribing, citing the continuity, approachability, and the provision of information and reassurance (Brooks, 2001). Another benefit was timeliness, with most patients receiving an assessment and prescription on the same day. Just under half the participants said that the time of GPs and nurses was better spent under this system, and the same number said that nurse prescribing was more convenient, with particular emphasis on care in the home.

The study by Luker et al., (1997) also found that some patients said that they had a better relationship with their nurse and so found it easier to speak to them, rather than to the GP. Patients said that the nurses had more contact with them, and so they were more inclined to open up and discuss any problems they had, which put the nurse in a better position to prescribe.

Of the 107 patients who received a prescription from the nurse, 13% felt that the information they received from the nurse regarding the prescription was better than that provided by the GP; no patient thought it was worse. The major reason was partly the way in which it was given. The nurse was said to provide information in a relationship manner that was easier to interpret. The patients also emphasised the difference in the amount of detail given by the nurse, as she had more time available (Luker et al., 1997).

These findings are supported by a more recent randomised controlled trial of emergency nurse practitioners (ENP) and their care of patients with minor injuries attending an A&E in Scotland (Cooper et al., 2002). While patients reported being satisfied with care from both SHOs and ENPs, the patients seen by the ENPs found them easier to talk to and open up to, were given more information about their condition and were given more advice on avoiding injury or illness in the future than the patients seen by an SHO. These differences were statistically significant ( $p=0.007$ ). In another A&E setting, Byrne et al., (2000), conducted a study, which compared care provided by ENPs and SHOs to patients with minor injuries presenting to A&E. The study found that patients seen by the ENP were more likely to have received advice and to have been given written instructions on discharge. This finding suggests that nurses working in the A&E setting are more likely to provide health education advice and information to patients than SHOs. The findings of this study are also supported elsewhere (Kinnersley et al., 2000; Sakr et al., 1999).

## 4.7. Improved Medication Compliance by Patients

The beneficial effects of the nurse/patient relationship for prescribing are supported in other studies, particularly in relation to compliance. A study in the US showed that the patients of nurse practitioners and nurse-midwives had higher compliance with recommended therapies because these advanced practice nurses provided better patient education, including non-pharmacological alternatives and complementary therapies to their patients (Office of Technology Assessment, 1986). A mental health study (Nolan, Carr & Harold, 2001) found that nurse prescribers provided better patient education and that this resulted in reduced side effects from drugs for their patients. The study reported that nurses working in mental health attributed non-compliance with medication to the poor relationships formed during patients' initial encounters with health professionals. The mental health nurses interviewed said that they were ideally placed to work with families and patients in addressing this problem.

A meta-analysis conducted by Brown and Grimes (1995) evaluated patient outcomes in primary care of nurse practitioners and nurse midwives, compared with physicians. Three out of 38 studies measured compliance as taking medications, keeping appointments and following advice on behavioural changes. Results showed that compliance was better in patients who had been randomly assigned to the nurse practitioner and, while the difference was small, it was statistically significant.

Jorm (2000), who conducted a review on health literacy, has further substantiated the impact of the advice given to the patient by the prescriber. Health literacy was defined as "the ability to gain access to, understand, and use information in ways which promote and maintain good health" (Nutbeam cited in Jorm, 2000). Jorm concluded that patients adhere more to their treatment regimes if they respect the person who is prescribing, feel that they are understood and are given sufficient information. This relationship between information and adherence to treatment recommendations has been found elsewhere (Hill, Bird & Johnson, 2001).

## 4.8. Fewer Pharmacological Interventions

Mahoney (1994) has provided further evidence of appropriate prescribing by nurses in a study that compared nurse practitioners with physicians, to determine whether extending prescriptive authority to nurses reduced the quality of prescribing. Data for the study were collected from a national random sample of nurse practitioners that recorded the prescriptive decision-making practices of both nurse practitioners and physicians in identical case simulations. Because the study was conducted in a controlled situation, using three hypothetical vignettes, nurses without legalised prescriptive authority were also included, thus allowing for a comparison with authorised nurse prescribers (Mahoney, 1994).

A quota sample of 296 nurse practitioners and 501 physicians working in primary care were interviewed by telephone survey, conducted by independent researchers, to elicit their treatment recommendations on three standardised geriatric case vignettes. Within the nurses group, 40% had the authority to prescribe, and these were further divided into two groups, dependent and independent prescribers. The dependent group comprised of nurses who could prescribe only with the prior agreement of the physician, while those in the independent group prescribed autonomously. A multidisciplinary team of medical and nursing experts determined the appropriate treatment for each of the vignettes and evaluated the responses blindly so as to eliminate bias. The responses were rated on a scale ranging from very inappropriate to very appropriate. An appropriateness index was then devised based on 64 items that received unanimous agreement from the expert team as being appropriate or very appropriate.

For the total nurse sample, the appropriateness score ranged between 0-33, from a maximum score of 58. Prior to undertaking the survey, it was hypothesised that those nurses who had the authority to prescribe would make more appropriate prescribing decisions, but this was not found. A second hypothesis was that nurses would score similarly to the physicians. The physicians' mean score on appropriateness was 13.3, compared to the nurses' score of 15.3, significantly different ( $p < .001$ ). Further tests were then conducted to check if this difference remained when nurses were evaluated by subgroup (independent, dependent and non-authorised). The findings indicated that the means of all the subgroups significantly differed from the physicians, signifying that each of the nurse subgroups, regardless of prescriptive authority, scored higher than the physicians on prescribing appropriateness ( $p < 0.05$ ).

A third hypothesis tested whether the nurses would prescribe fewer drugs and offer more non-pharmacological interventions than the physicians and a statistical difference was supported between the groups. The mean score for nurse practitioners was 1.7 drugs, compared to 2.7 prescribed by the physicians. The difference in the number of non-drug interventions was also statistically significant, with the nurse practitioners offering more than the physicians.

The relative contribution of each of the various predictor variables in estimating the prescribing appropriateness scored was then examined using factor analysis. Prescribing experience and geriatric experience were the principal explanatory variables, with postgraduate education nearing statistical significance. However, there was no significant difference between independent or dependent prescriber to the appropriateness of the prescribing decision.

This simulated study showed that the nurse practitioners scored higher on an index of appropriateness than the physicians, and that prescriptive authority for nurse practitioners did not change their style of practice nor did it increase the quantity of drugs they prescribed. These findings support previous research that recorded more non-drug interventions and fewer drug recommendations by nurse practitioners (Munroe et al., 1982; Simborg, Starfield & Horn, 1978).

Brown and Grimes (1995) reported in their meta-analysis that in caring for low risk patients nurse midwives practice varied from physicians as it related to the women receiving significantly less analgesia and anesthesia. However they did state that the majority of the nurse midwife studies analysed were limited to low risk patients and therefore the findings of their analysis were generalisable to only this population.



## 4.9. Clinical Decision-Making

The process of providing safe and effective prescribing is a direct result of the clinical assessment skills of the clinician, and, if these are inadequate, errors and mis-prescribing can occur. Prescribing for the elderly is particularly important due to their slowing metabolism, heightened sensitivity to drugs, the possibility of more than one illness and polypharmacy (Avorn, Everitt & Baker, 1991). Consequently, clinical history taking is a crucial element in providing optimal care, since the elderly are often less able to withstand the potential problems caused by inappropriate prescribing.

In cognisance of increasing errors in the prescribing process by clinicians in primary care, a survey of 501 primary care physicians and 298 nurse practitioners was undertaken to assess their clinical decision-making and use of therapeutic options (Avorn et al., 1991). Because this process is particularly significant for the elderly, a criterion for inclusion in the study was that the clinicians had to have patients aged over 65 years as part of their usual caseload. A stratified random sample of physicians in primary care was selected from the American Medical Association census files listing all physicians, and the same for nurses from the American Academy of Nurse Practitioners files.

Each participant was presented with a case vignette describing a patient with epigastric pain, with an endoscopy report showing diffuse gastritis. The study wished to examine the effect of patient age on clinical decision-making. The physicians were told that some patients were in their thirties and others in their late seventies. The nurse practitioner group vignette was given the same information, except that all patients were in their seventies. The clinicians were encouraged to request further information before giving their recommendations on treatment (Avorn et al., 1991). Responses to certain questions were pre-constructed, for example, what medications the patient was taking, diet, smoking etc.

Results showed more than one third of the physicians chose to commence treatment on an elderly patient without seeking a relevant history, in contrast to only 19% of nurse practitioners. Nurse practitioners were far more likely to assess the patient's previous medical history before making a decision. Nurse practitioners asked an average of 2.6 questions, compared to 1.6 for physicians. Similarly, when therapy was chosen, nurses were far more likely to choose non-pharmacological approaches, such as a change in diet or methods to deal with stress, which would have been more appropriate in the case of a patient with gastritis and high aspirin, caffeine, alcohol and tobacco intake (Avorn et al., 1991). Nurses were far less likely than physicians to order a prescription drug for the patient (20% v 63%) or to state that a prescription drug would be the single most effective therapeutic intervention for a particular patient (12% v 46%). No relationship was found between the decisions made by nurses and whether or not they had prescribing authority.

This study provides positive feedback for nurse prescribing decisions, but its validity could be questioned, since it was a proxy clinical situation examined over the telephone. It could be argued that, in a true clinical situation, the physician would take greater care in determining a suitable treatment plan for the patient and so deem more favourable results than those found in this study. The authors claim this to be unlikely since a fee was provided for the interview and the time taken to complete the interview was equal to a typical patient consultation. In fact, they suggest that it could even be biased in favour of the physicians, since they were frequently asked if they required any more information about the patient (Avorn et al., 1991).

A more recent study of the effectiveness of advanced practice nurses prescribing authority supports these findings. In the state of Louisiana, US, advanced practice nurses had legal prescribing authority only within the confines of a demonstration project allowed for by law. This project was set up to study the safety and effectiveness of allowing APNs to prescribe medications to acutely and chronically ill patients in a variety of ambulatory care settings (Hamric et al., 1998). Participants were 33 APNs (including one nurse midwife) and 1,708 patients at 25 primary care sites, which were evaluated over a two-month period. While the sample of nurses was not selected randomly, there were no significant differences noted when compared with the total number of NPs in the state.

Patient data were collected by the APN who, having seen the patient, then had the physician co-sign the treatment ordered, indicating approval with the nurse's treatment plan. If the physician disagreed, there was provision on the treatment form for reasons to be outlined. This occurred in only 13 of 1,708 cases (0.8%). Variables recorded by the nurse were diagnosis, protocol selected, treatment, and prescriptions written, follow-up prescribed and patient outcome. These outcomes included whether or not the patient's condition had worsened, remained the same, stabilised, improved, patient did not return and patient non-compliance. Patient satisfaction was recorded using two instruments that were developed locally with tested psychometric properties. Physician data was collected at the end of the study period and included appropriateness of the APN's prescribing. For safety reasons, on-site visits were also conducted by APN representatives of the state's prescribing authority committee and by nursing and medical societies. Some legislators and media personnel also attended to oversee the project's progress.

The APNs made 147 different diagnoses, ranging from threatened suicide, chest pain, and pneumonia to insect bites, insomnia and acne (Hamric et al., 1998, p.116). The most common were respiratory tract disorders. Over 90% of the patients seen by the APNs and collaborative physicians required a prescription. The prescriptions were in 57 different categories, including medical devices but excluding controlled drugs. The majority of drugs prescribed were antibiotics, decongestants, antihistamines, antivirals, and bronchodilators/anti-asthmatics.

Overall patient outcomes proved positive, with 76% of patients improved or stabilised in response to the APN treatment. Patients were similarly satisfied with the treatment and medication provided by the APN, stating that it helped their problem. Ninety eight percent agreed or strongly agreed that they would choose to see the advanced practice nurse if they had another health problem. The evaluations conducted by the physicians showed that, in all cases in this study, the physicians supported the advanced practice nurses' diagnostic and prescriptive decisions, finding them to be beneficial to their patients and to their practices (Hamric et al., 1998). All agreed that APNs had the necessary pharmacotherapeutic knowledge, had appropriately complied with protocol, and consulted the physician when needing to prescribe outside of protocol. Only in some rare circumstances did the APN go outside the protocol. Additionally, with regard to the on-site visits conducted during the project, compliance with protocols by the APNs was noted in all sites visited and patients were found to be satisfied with the APNs care, confirming the studies findings.

## 4.10 Cost-effectiveness

Few studies have measured the economic impact of nurse prescribing, yet it is one of the main considerations used by governments and legislators in deciding whether or not to extend this role to nurses. In the UK, when nurse prescribing was first evaluated, the main reason was to verify that it would cost the Treasury no more than prescribing by doctors (Jones, 1999). Such concerns are inherent in finance departments, given the fear that insufficient knowledge and education would lead nurses to prescribe indiscriminately (Snell, 1999).

A study by Venning et al., (2000) compared the cost-effectiveness of general practitioners and nurse practitioners as first point of contact in primary care. A multi-centre, randomised, controlled trial of patients requesting a same day appointment was conducted across 20 general practices in England and Wales. The main outcome measures were: consultation process (length of consultation, examinations, prescriptions, referrals), patient satisfaction health status, return clinic visits over two weeks and costs. Approximately 1,300 patients attending for same-day consultations were randomly assigned to a GP or a nurse practitioner.

The study results showed no significant difference in health service costs (nurse practitioner £18.11 v general practitioner £20.70), even though nurse practitioner consultations were almost twice as long as those of the general practitioners (11.57 minutes v 7.28 minutes). Patients were found to be more satisfied with the nurse practitioner consultations (mean score 4.40 v 4.24 for general practitioners), and the difference remained after consultation length was taken into account. No significant differences were found in prescribing patterns or health status outcomes for the patients treated. Thus, the study concluded that, if nurses could maintain the benefits of their care while at the same time shortening their consultation times, they could even be more economical than general practitioners. However, since the longer consultation time provided by the nurse enables more information to be provided to the patient, thereby increasing the chances of compliance, it is debatable if the benefits could be maintained if this time was reduced. A future study would be useful to measure length of consultation time, information provided and compliance of patients comparing the GP to the nurse practitioner.

Netten and Knight, in 1999, estimated that training costs £4,735 a year for a nurse and £21,215 a year for a doctor. On this basis, they concluded that, when the respective costs of all nurse and doctor training were compared over their expected working lives, nurses were more cost-effective than general practitioners in treating minor illnesses (Netten & Knight, 1999).

These findings are supported by other studies, which have found that, by extending the prescribing role to nurses, they would be as cost-effective, as general practitioners (DH, 1991; Ferguson et al., 1998). Ferguson et al., (1998) conducted an economic analysis of the eight demonstration sites of the first nurse prescribers in the UK (Luker et al., 1997) in order to identify and quantify any time savings attributable to the introduction of nurse prescribing, in addition to its impact on cost and volume of prescriptions. The study acknowledged that the small number of sites precluded any significant conclusions being drawn, but found no evidence that nurse prescribing had increased costs.

In a review of studies conducted in the US, Sutcliff (1996) found that nurses tend to prescribe less than their medical counterparts and this is attributed to the different attitudes nurses have to the prescribing process. Sutcliff stated that the nurse practitioners surveyed considered the act of prescribing a medication to be part of their holistic clinical management of the patient, and not the essence of their care, as alleged, the study says, by many doctors. Similarly, in another study, Munroe et al., (1982) analysed 1,000 prescriptions written by nurse

practitioners over a six-month period and found that they prescribed one-third the number written in a similar primary care medical centre. A chart audit showed that the majority of the prescriptions written were appropriate and safe. This study did not, however, compare patient outcomes or whether or not the caseload was controlled for at each site.

## Summary

Research studies on nurse prescribing were examined in the context of quality care and regulation. Maxwell's model of quality provided a framework to measure the outcomes of prescribing practices of nurses and midwives within the selected studies. In addition to conducting an evaluation of the outcome studies associated with nurse/midwife prescribing, studies were reviewed about the need for prescribing by nurses who do not yet possess this authority. The majority of studies presented were conducted in the US and the UK with limitations related to their methodology recognised. Many of the studies compared nurses (particularly advanced practice nurses) with medical practitioners and typically in a primary care setting. Eight themes were identified from the research studies that incorporate the principles of nursing and midwifery care and some were found to involve more than one theme. The themes were appropriate prescribing, patient satisfaction, greater accessibility and convenience for patients, nurses as information providers, improved medication compliance by patients, fewer pharmacological interventions, appropriate clinical decision-making and cost-effectiveness.





# Section 2

## CONTEXT OF NURSING AND MIDWIFERY



## Section 2 - Outline of Content

**Chapter 5** examines the context for an expanded scope of practice for nurses and midwives for medication management and prescriptive authority. The historical background for professional practice along with Irish legislation and regulation, are reviewed. Relevant health care policy and nursing and midwifery reports are presented as they influence the current developments.

**Chapter 6** details the professional guidelines developed by An Bord Altranais to assist nurses and midwives in determining their scope of practice. These guidance documents provide a theoretical foundation for decision-making and maintenance of competence.

## CHAPTER 5

# The Context for Expanded Scope of Practice

### 5.1. Introduction

Legislation directs nursing and midwifery practice, particularly in relation to medicinal products. Regulatory bodies such as An Bord Altranais which was established under the *Nurses Act, 1985*, determine the professional standards for nurses and midwives. The process of professional development and role expansion has been significant over the past few years and continues to impact on health care services. An appreciation of all of three factors – legislation, regulation and role expansion – is essential when considering the expansion of the professional role of nursing and midwifery, particularly in relation to prescriptive authority. The history of nursing and midwifery training for, and practices of, medication management also contributes to the background for this role expansion and sets the stage for this chapter.

The context of nursing and midwifery in Ireland has seen change in recent years, owing to shifting epidemiology, the increasing complexity and pace of health care technology, accompanied by the need to advance skills and knowledge. The initiation of governmental health care policies and strategies and the health service reform programme have driven the reconfiguration of the Irish health care system.

The legislative framework that determines practice for nurses and midwives, particular for medication management, is examined, as an understanding of present regulation is necessary for determining and implementing future professional roles. This chapter reviews a number of reports that are of primary relevance to the nursing and midwifery professions. More specific health reports, such as those related to palliative care and cardiovascular health, are considered as they relate to the changing requirements for nursing and midwifery practice.

### 5.2. Historical Perspective of Medication Management of Irish Nurses and Midwives

There has been no historical account of Irish nurses or midwives in the specific practice of medication management and so the evidence available is lacking in detail. For this reason, Scanlan's *The Irish Nurse, A Study of Nursing in Ireland: History and Education 1718-1981* (1991) a comprehensive account of the history of Irish nursing was relied upon in this review to gain some insight into early practices.

#### Nurses

The history of Irish nursing dates back to the 18th century when it was not organised as a professional discipline and its practice was unregulated, varying enormously between institutions. One Dublin hospital in 1733 cited nurses rules which obliged her to keep her ward clean, assist in washing the large linen, carry out the orders of the physician and surgeon and distribute medicines (Scanlan, in Condell, 1998). Another account is recorded in 1847, whereby at another Dublin hospital the ordinary members of the nursing staff were unable to read or write and it was the apothecary who administered the medicines. Subsequently all nurses were required to be literate so that they were always able to administer the medicines (Scanlan, 1991). However there is no documentation regarding what type of medicines nurses could administer or what instruction they received regarding this practice.

Nurse training was first begun by the Irish Sisters of Charity in the 1830s for nuns only, extending to lay persons 20 years later. By 1900 there were 39 nursing schools in Ireland and the nurses scope had broadened to incorporate the management of medicines within nursing schools' syllabi. The management of medicines was also noted in some hospital rules:

"...the ordinary nursing work... [was] to administer oxygen, to give hypodermics, hot and cold packing, fomentations, administration of medicines." (quoted by Scanlan, p. 106).

Advances were also made in relation to the registration of nurses which was provided for in the *Nurses*

*Registration (Ireland) Act* of 1919, which established the General Nursing Council of Ireland. Its responsibilities were to put in place the rules for registration, prescribe the training and education necessary for nurses, and approve nurse training schools (Scanlan, 1991).

The first curriculum for general nursing was published in 1923. It advised that 'administration of medicines orally, local applications, and giving enemata' was to be provided under the Theory and Practice section for first year students. In second and third years, there were four lectures to be given on *Materia Medica and Therapeutics* which covered the importance of accuracy and regularity in the administration of medicines; methods of administration; asepsis; dosage for adults and children; common drugs used; contraindications, and signs of overdose (General Nursing Council, 1923). The practical component of nurse training in second and third years comprised the methods of administration, preparation of drugs for IV administration and the technique of using hypodermic injections to administer drugs.

By the 1950s many changes had occurred in the provision of nursing care owing to advances in medical science including an increase in the usage of medicines which necessitated the evolvement of nursing care to being more patient centred. An Bord Altranais's nurse training syllabus of 1956 demonstrates this transition; in addition to detailing the domestic duties specific reference was made to medication interventions. The administration of oral medicines, the application of poultices and lotions, and the administration of enemata in the first year were required and in the second year the nurse was to administer injections (Ryan, 2000).

The new programme for the practice of nursing indicated that,

"Particular attention should be paid to those matters which are of everyday practical use to the nurse while tending the sick. It is more important that the nurse should be able to recognise those symptoms and signs which indicate the onset of trouble than that she should be conversant with the pathology of disease." (An Bord Altranais, cited by Ryan, 2000, p. 81).

By the 1960s advances in the nurses' activities had occurred, losing the domestic duties and instead engaging in practices such as observing for side-effects of drugs. It was suggested that patients were becoming more informed and were looking for information on their medicines and treatments (Ryan, 2000).

## Midwives

Midwifery training in Ireland extends as far back as the late 1700s with the Rotunda Hospital as the earliest provider. Regulation of midwifery training was first implemented under The *Midwives Act of 1902* (DoHC, 2004). The Central Midwives Board was established as a result of the *Midwives (Ireland) Act* of 1918 and was responsible for the execution of the Act and for the regulation of midwives (McMahon in Fealy, 2005) with similar functions as the General Nursing Council.

Rules signed by the Minister for Local Government and Public Health, which were applicable from 1925-1985, state in Rule 10 (b) that

"A Midwife must not on her own responsibility use any drug unless in the course of her obstetric training, whether before or after enrolment, she has been thoroughly instructed in its use and is familiar with its dosage and methods of administration or application."

The midwife was required to note in her Register of Cases any drugs that she used. Interestingly these Rules do not cite any requirement in relation to midwives needing a prescription to obtain medications to supply to a client. (With the enactment of the *Nurses Act, 1985* these Rules were automatically revoked).

In 1930, the Central Midwives Board outlined the subject content for examination of midwives but no reference was made specifically to pharmacology. There was mention of obstetric emergencies and how the midwife should deal with them until the arrival of a doctor which included some knowledge of the drugs commonly used in such cases, and of the mode of their administration (Rule C, article k).

Medicines and their management were addressed more specifically in the *Midwives Act, 1944*. It stated that during either the first or the second period of a pupil's training she should attend a course of instruction in the administration of nitrous oxide and air and that in order to qualify she would have to produce a proficiency certificate in its administration. Article 36 outlined the subjects for the first examination and included the use of such drugs and solutions as would be required in practice; the conditions which would call for their use; their dosage and strength; the mode of administration or application and their dangers (Central Midwives Board, 1947).

## Commencement of An Bord Altranais

The responsibilities of the General Council and the Central Midwives Board were formally taken over by the establishment of An Bord Altranais following the enactment of the *Nurses Act, 1950*. The new Board regulating



both nurses and midwives gave approval of the training programmes available for students, nurses and midwives. The *Nurses Act, 1985* subsequently replaced this Act.

All direction on the administration of medications was provided for at the local level until the publication of the first guidance document by An Bord Altranais in 1990. These first guidelines provided nurses and midwives with guidance on the administration of medical preparations. Midwives received additional information on medicinal products in the *Guidance to Midwives* document also published by An Bord Altranais in the same year. Both documents have been updated as required (see Chapter 6) but much of the guidance regarding management of medication is still provided for at the local level through organisational policies and procedures.

### 5.3. Recent Changes

Many of the changes at present affecting nursing and midwifery have occurred as a result of the implementation of the Report of the Commission on Nursing (Government of Ireland, 1998). Resultant from the Commission's report, and recognising that over 36% of health service employees are nurses or midwives, the government established the Nursing Policy Division within the Department of Health and Children. The Division has a key role in implementing the recommendations of the Commission on Nursing, specifically in driving forward the changes in nurse education and training. The Division has also been very involved in human resource and industrial relations issues, including workforce planning related to nursing and midwifery. The Division is headed by a Principal Officer.

The establishment of the Nursing Policy Division ensured an integrated and strengthened nursing function within the Department and included the appointment of a Chief Nursing Officer and nurse/midwife advisers for the first time. These appointments have been key to providing professional leadership to nurses and midwives, and to strengthening the relationships with nursing and health care service providers.

The education of nurses and midwives has also gone through radical changes. On the recommendation of the Commission on Nursing, pre-registration education programmes (with the exception of midwifery and paediatrics) are now offered solely at degree level within the higher education institutions since 2002. This was in recognition that the future health service will require nurses who can be more autonomous and flexible in their practice. This service "will require greater interdisciplinary co-operation in the delivery of health care... and if inter-disciplinary health care teams are to function effectively, all participants should have equality of status" (Government of Ireland, 1998, p. 79).

There has also been a significant number of post-registration education programmes developed by the third level education institutions for nurses and midwives who are pursuing additional clinical qualifications in a variety of speciality areas. Academic awards granted for these programmes include higher diploma, post graduate diploma or masters' degree dependent upon the course content and duration of the programme. The Nursing Careers Centre website managed by An Bord Altranais lists over 35 specialities for further education courses offered. Some examples are respiratory care, physical disability/rehabilitation, neonatal and informatics.

Clinical career pathways for nurses and midwives have also changed radically. Ireland has registered general nurses, psychiatric nurses, midwives, children's nurses, public health nurses and intellectual disability nurses. But recently, within each of these divisions, nurses and midwives have begun to develop a variety of specialist roles. Psychiatric nurses, for example, may work as behavioural therapists or community psychiatric nurses. The acute hospitals have developed the greatest range of clinical nurse specialists, with many employing oncology nurses, diabetic nurses, breast feeding/lactation specialist, anaesthetic and theatre nurses. Associated with these emerging roles has been the advanced level of education required by nurses and midwives to achieve competence in their specialities.

Clinical nurse/midwife specialists have evolved in many Irish health care settings, and there are now approximately 1,677 CNS/CMS nurses and midwives (National Council, 2005a). They work in close collaboration with the medical practitioner and other members of the health care team in managing patient caseloads. Collaborative practice and teamwork have become more commonplace (McCarthy, 2000). These specialist roles have contributed to a transformation in nursing which is set to increase significantly in this century (Leahy & Wiley, 1998).

There is an established framework for clinical nurse/midwife specialist posts developed by the National Council. Prior to May 2001 nurses and midwives practising in these positions were confirmed by the National Council within an Immediate Career Pathway for clinical nurse/midwife specialists. Since this time an Intermediate Career Pathway has been implemented and applicants seeking such a position must possess a minimum of five years post-registration including a minimum of two years experience in the specialist area. The applicant must also be educated to higher diploma level or equivalent. If he/she does not hold this academic qualification there must be a contractual agreement between the applicant and employer to obtain a higher diploma or equivalent. The future career pathway for the CNS/CMS role (not yet instituted) will require a post graduate diploma in clinical practice.

Advanced clinical nursing and midwifery practice are also in early stages of development in Ireland. In line with recommendations by the Commission on Nursing, 29 advanced nurse practitioner posts have been approved to date (National Council, 2005b) within the specialities of accident and emergency, sexual health, rheumatology, breast care, diabetes, cardiology, cardiothoracic and chronic disease management. Other applications are being considered by the National Council, which has approval authority (National Council, 2005b).

The title 'nurse practitioner', in itself, reveals little of the practice role and responsibilities from one setting to another. Nurse practitioners in the US provide services at an advanced level, as they hold a master's degree in their area of specialisation (AANP, 1998), whereas the role is not yet delineated in the UK (Chang et al., 1999). In Canada, the title 'nurse practitioner' is not protected in all the provinces, which means that nurses may use the title who have not met the specific criteria to be regulated at an advanced practice level (CNO, 2005).

In Ireland, the process for gaining accreditation as an advanced nurse practitioner is a rigorous one. In summary, the nurse/midwife must be educated to master's degree or higher and have a minimum of seven years post-registration experience, five of which must be in the chosen area of specialist practice (National Council, 2004a). Advanced nurse practitioners can be accredited into an approved post only when they meet the core concepts of advanced practice of the National Council (National Council, 2004a).

## 5.4. Irish Legislation for Nursing/Midwifery Practice and Medication Management

The traditional role of managing medications by nurses and midwives has expanded over the years, so much so that many nurses and midwives now find themselves undertaking activities beyond customarily recognised nursing and midwifery roles (e.g. supplying medications under protocol). Therefore, it is more than ever important that nurses and midwives understand the professional regulations and the relevant guidelines. Any expansion of practice will challenge the judgement and accountability of nurses and midwives, since they are legally, morally and ethically responsible for their actions in this regard (McKenry & Salerno, 1998).

This section examines the legislation that determines the professional practice of nurses and midwives. This is followed by an overview of the regulations that relate to medication management.

### 5.4.1 Regulation of Nursing and Midwifery

#### ***Nurses Act, 1985***

The nursing profession is governed by the *Nurses Act, 1985*, which defines a 'nurse' as a woman or man whose name is entered in the Register. A 'midwife' is defined as a person whose name is entered in the midwives division of the Register (*Nurses Act, 1985 (No. 18 of 1985) Section 2*). The Act empowers An Bord Altranais to establish and administer a system of regulation/registration, set standards for practice through the Board's fitness for practice responsibilities, provide Ministerial advice and carry out Ministerial-directed functions, if so requested.

An Bord Altranais is also responsible for defining and maintaining the standards of nurse and midwife education. This is provided for under the Nurses Rules 2004 which were established under Sections 11, 26 27, 28, 31, 32 and 33 of the *Nurses Act*, and which state the criteria for implementation of the syllabi for education and training of student nurses. The Act also gives An Bord Altranais statutory responsibility for providing guidance to the nursing profession on subjects related to ethical conduct and behaviour.

Internationally, a primary objective and function of regulatory nursing organisations is the protection of the public (Chiarella, 2001; ICN, 1996; JM Consulting Ltd, 1998). Although not explicitly stated in the *Nurses Act*, An Bord Altranais sees its overall regulatory purpose as the protection of the public (An Bord Altranais, 2000c). The proposed new Nurses (Amendment) Bill, which is at an advanced stage, addresses this point, and it is one of its main features.

Setting standards for the education and practice of nurses that are relevant to the public need is the cornerstone of professional accountability and autonomy (ICN, 1992). Nurses and midwives, and other relevant stakeholders, need to be fully aware of the changes proposed in the new Bill and the related regulatory processes.

### 5.4.2 Professional Development of Nursing and Midwifery

#### ***The National Council for the Professional Development of Nursing and Midwifery (Establishment) Order, 1999 (Statutory Instrument No. 376 of 1999)***

The Minister for Health and Children established the National Council for the Professional Development of Nursing and Midwifery (the National Council) as a statutory body in 1999 as recommended in the *Report of the Commission on Nursing*. The functions of the Council are to promote the professional development of nurses

and midwives. Specific statutory functions include: monitoring the continuing growth of nursing and midwifery specialities acknowledging the needs of service and practice changes; formulating guidelines for the creation of specialist posts – clinical nurse specialist and advanced nurse practitioner (as previously described) and supporting further progress in continuing nurse education by the Health Service Executive (previously the health boards) and voluntary organisations.

### 5.4.3 Medicines Legislation

In order for nurses and midwives to competently participate in medication management, An Bord Altranais requires that they be knowledgeable of the relevant statutes and legislation regarding the activities of prescribing, dispensing, storing and supplying of medicinal products (An Bord Altranais, 2003). The principal legislation is *The Medicinal Products (Prescription and Control of Supply) Regulations 2003* and the *Misuse of Drugs Acts 1977 and 1984*. Other relevant legislation is covered in this section.

#### ***The Medicinal Products (Prescription and Control of Supply) Regulations 2003 (Statutory Instrument (SI) No. 540 of 2003)***

*The Medicinal Products (Prescription and Control of Supply) Regulations, 2003* (Statutory Instrument (SI) No. 540 of 2003) apply a comprehensive system of control to medicinal products, and identify those that can be supplied on medical prescription only. The Regulations detail medicinal products that are not prescription-only, and include a pharmacy-only category. The Regulations meet the requirements of EU Directive 2001/83/EC of 6th November 2001 (Council of European Communities, 2001) for the classification for supply of medicinal products to the public. The Regulations give additional direction in respect of restrictions for prescription dispensing, conditions for emergency-supply of prescription-only medicinal products by pharmacists, requirements for the labelling of dispensed medicinal products, and prohibition of the supply of medications after their expiration dates.

During the pilot sites study undertaken as part of this Review (see Chapter 11), An Bord Altranais asked the Department of Health and Children for clarification of the legal framework supporting the use of medication protocols.

The Department reviewed the *Medicinal Products (Prescription and Control of Supply) Regulations 2003* and requested advice from the Office of the Attorney General regarding the interpretation of these Regulations. The Attorney General advised that these Regulations do not apply to hospitals. As a result of this advice, the Department stated that the responsibility for the procedures and controls that are applicable to medicines (other than for controlled drugs under the *Misuse of Drugs Acts*) within hospitals rests with the individual hospitals and their management.

Within the Regulations, the term "hospital" is defined as follows:

"Hospital includes a clinic, nursing home or similar institution." *Medicinal Products (Prescription and Control of Supply) Regulations, 2003 Article 4 (1)*.

This clarification of the Regulations enables the use of medication protocols by nurses and midwives to supply medications to patients/clients without the requirement of an individual written prescription by a medical practitioner for a named patient, provided the specific criteria outlined in the written protocol are followed.

#### ***Misuse of Drugs Acts, 1977 and 1984***

The *Misuse of Drugs Acts, 1977 and 1984*, and associated regulations, authorise the circumstances for the production, possession, supply, transportation, importation and exportation of controlled drugs. Each controlled drug is classified under one of five schedules and the types of control differ depending upon which of the five schedules the controlled drug is classified under (Tomkin & Hanafin, 1995). The drugs contained within these schedules may be obtained and administered only in the prescribed form, as set out in the 1977 Act and the related regulations. The Acts state the conditions that must be met for the supply of controlled drugs within hospitals, and the requirements regarding their documentation and record-keeping. These conditions and requirements vary according to the health care setting (*Misuse of Drugs Act, 1984; Regulations, 1988 (SI No 328 of 1988)*).

There is specific reference to midwives in the *Misuse of Drugs Regulations, 1988* – Article 10 grants authority to a midwife providing community based maternity services to, as far as necessary for her practice as a midwife, have in her possession or administer any medicinal product which contains pentazocine or pethidine<sup>1</sup>. The Regulations stipulate that a written order signed by the midwife and a registered medical practitioner practising in the area in which the midwife practices is required for the midwife to possess either of these medications for her practice. The requirements for record keeping by the community midwife for the administration of pethidine are detailed in Article 17 of the Regulations.

<sup>1</sup>Pentazocine and pethidine are classified as MDA Schedule 2 medicinal products. They are narcotic analgesics used for pain relief for women in labour.

The use of a medication protocol does not apply for the supply of scheduled controlled drugs as the Acts specifically state the need for an individual written prescription from the medical practitioner.

#### ***Irish Medicines Board Act, 1995***

The *Irish Medicines Board Act, 1995* established the Irish Medicines Board, whose main functions are:

- The licensing of the manufacture, preparation, importation, distribution and sale of medicinal products for human and veterinary use
- Administering a service for obtaining and assessing information in relation to safety, quality and efficacy of medicinal products; this includes the assessment of reports on adverse effects of medications
- The assembly and distribution of information relating to medicinal products specifically information on the pharmacological classification and therapeutic effects of such products
- Approval of clinical trials as stipulated in corresponding legislation.

The *Irish Medicines Board (Miscellaneous Provisions Bill)* proposes to amend the *Misuse of Drugs Act, 1977* and 1984 and the *Irish Medicines Board Act* (DoHC, 2005).

#### ***Poisons Act, 1961 and Poisons Regulations 1982 (SI No. 188 of 1982)***

This legislation and subsequent amendments (1983, 1984, 1986, 1991 and 2003) list the substances that are deemed to be poisons and provide for the general restrictions and exemptions on their sale or supply. There are requirements for labelling, storage and record keeping. Many over-the-counter medications are included as poisons, and nurses and midwives should be familiar with the general listing of schedules for such medications as they apply to their practice.

### **5.4.4 Other Relevant Legislation**

#### ***The Health (Family Planning) Acts, 1979 and 1992, and the Health (Family Planning) (Amendment) Act, 1993***

These Acts are cited together as the *Health (Family Planning) Acts, 1979 to 1993*, and shall be construed together as one. They legislate for the establishment of family planning services and the control, sale and supply of contraceptives. The definition of contraceptive is provided in the 1993 Act.

#### ***Nursing Homes (Care and Welfare) Regulations 1993 (SI No. 226)***

These Regulations contain provisions for ensuring that adequate and suitable care and accommodation are provided for dependent persons in nursing homes. There are requirements for the proper record-keeping of medication management. The registered proprietor, and the person in charge of the nursing home, must make adequate arrangements for the recording, safekeeping, administering and disposal of drugs and medicines. They must also ensure that the treatment and medication prescribed by the medical practitioner of a dependent person are correctly administered and recorded. The Regulations also stipulate that where physical or chemical restraint is used, the type of restraint and the duration must be recorded. The Regulations establish a monitoring procedure of all practices by designated officers of Health Service Executive areas.

#### ***Mental Health Act, 2001***

The *Mental Health Act, 2001* provides for the establishment of the Mental Health Commission. The primary functions of the Commission are to ensure high standards and good practices in the delivery of mental health services and to ensure that the rights of detained patients are protected. The Act is designed to be implemented on a phased basis and not all parts of it have yet been fully commenced. Until it is fully commenced, the provisions of the *Mental Treatment Act, 1945* and *Mental Treatment Act, 1961* continue to apply.

Section 60 of the *Mental Health Act, 2005*, (not yet commenced) provides that where a patient is getting medicine for the amelioration of a mental disorder for a period of three months, the medicine must be discontinued unless the patient consents or, where the patient is unwilling to give consent, the continued medication is authorised by the consultant psychiatrist responsible for the patient and by another consultant psychiatrist.

## **5.5. Nursing and Midwifery Reports**

#### ***Report of the Commission on Nursing***

The impetus for the present examination of nurse prescribing in Ireland first emerged from the *Report of the Commission on Nursing - A Blueprint for the Future* (Government of Ireland, 1998). The Minister for Health

established the Commission in March 1997, following a recommendation from the Labour Court, which recognised that there had been extensive changes in the requirements placed on nurses, both in training and in the delivery of services. The Commission's terms of reference were wide-ranging and included an examination of the evolving role of nurses, structural and work changes appropriate for effective and efficient performance of the role and the requirements for training and education.

In relation to prescribing, the consultative process undertaken by the Commission demonstrated that many nurses and midwives had concerns regarding the administration of medicinal products. It found that there were numerous situations in which "nurses or midwives might need to administer non-prescribed drugs or medicated dressings in the interests of the patient, in the absence of medical support" (Government of Ireland, 1998, p.58). As a result, the Commission's report recommended that An Bord Altranais urgently review the guidelines in relation to the administration and application of non-prescribed drugs by nurses and midwives. The Commission also recommended greater flexibility for nurses and midwives in the administration of non-prescribed drugs (over-the-counter medications), which could be given according to agreed protocols with medical practitioners (Government of Ireland, 1998).

### **Review of Scope of Practice for Nursing and Midwifery**

These findings of the Commission on Nursing in relation to prescribing were substantiated in the *Review of Scope of Practice for Nursing and Midwifery* (An Bord Altranais, 1999 and 2000a) undertaken by An Bord Altranais. Recommendations from the Commission had emphasised the need for a framework that would enable nurses and midwives to develop their practice and empower them in their decision-making. Consequently, An Bord Altranais set up a Scope of Practice Project Team to undertake a review of the scope of practice for nursing and midwifery by examining current practices, both nationally and internationally, and identify the key issues.

The Project Team conducted an extensive consultative process. Many of those interviewed expressed concerns about the management of medicines in their everyday practice and how the lack of prescribing authority inhibited them in their delivery of patient care. Participants believed that, in certain situations, they should be able to supply non-prescription medications to their patients and that nurses who were practising at an advanced level should, where appropriate, be able to prescribe other medications that were currently prescription-only. An example mentioned was wound management, where only a doctor could prescribe some products. This, it was reported, created unnecessary delays and wasted time, when the nurse had the expertise to prescribe the appropriate course of treatment (An Bord Altranais, 1999).

Midwives concurred with the need for prescribing and stated at the consultative forum that there were certain prescription-only medications that they needed to be able to prescribe and administer in the course of their practice, without reference to a medical practitioner. They said that, by expanding their scope of practice to include prescribing in appropriate circumstances, fragmentation of care would be reduced, and the overall quality of patient care would be improved. Midwives recognised that further education would be required if the expansion of practice were to incorporate prescribing.

The Scope of Practice Project Team collected a significant amount of data on the management of medications as a result of its consultative processes. However, nurse prescribing was not part of the established terms of reference for the project, as the focal point was the development of a framework for the scope of practice for nursing and midwifery practice. The *Review of Scope of Practice for Nursing and Midwifery* concluded that there was a need for further exploration of the role of the nurse and midwife in medication management. It recommended a review of legislation in order to support prescribing by nurses and midwives of 'prescription-only' medications in suitable and appropriate circumstances.

Arising from the Scope of Practice Review, An Bord Altranais and the National Council established this *Review of Nurses and Midwives in the Prescribing and Administration of Medicinal Products* to "initiate and evaluate nurse and midwife prescribing in relation to both non-prescription medications and prescription only medications" (An Bord Altranais, 1999, p. 37).

The recommendations on health care planning and service delivery specific to nursing and midwifery practices in both the *Report of the Commission on Nursing* and the *Review of Scope of Practice for Nursing and Midwifery* should be considered in tandem with current national health policy and other influencing reports in presenting the case for nurse and midwife prescribing.

### **Nurses' and Midwives' Understanding and Experiences of Empowerment in Ireland**

The Empowerment of Nurses and Midwives Steering Group was established in March 2000 by the Minister of Health and Children to devise a comprehensive plan of action for strategy development to facilitate nurses' and midwives' roles in the management of health care services and organisations in which they work. The report *Nurses' and Midwives' Understanding and Experiences of Empowerment in Ireland* (DoHC 2003a) identified nurse and midwives as essential service providers. It recommended that recognition, encouragement and



resource allocation should be given for advances in the implementation of best practice in nursing and midwifery. It said that service planning should be undertaken with the full involvement of nurses and midwives, reflecting their key roles in the care of patients, and should be undertaken as a multidisciplinary exercise. The Report provides a wealth of information that will assist the reform agenda in determining future directions and support for the professions through empowerment.

#### ***A Research Strategy for Nursing and Midwifery in Ireland: Final Report***

The *Report of the Commission on Nursing* recommended the development of a national strategy for nursing and midwifery research. This recommendation was accepted by the government and the Nursing Policy Division of the Department of Health and Children was given responsibility for advancing it. The outcome was the publication by the Division of *A Research Strategy for Nursing and Midwifery in Ireland: Final Report* (2003b). Its recommendations centred on the advancement of research by the professions, and were structured on three organisational levels: professional, institutional and national commitment. Within each of these, there were specific recommendations that support research development. The report said that collaboration and concentrated partnerships amongst the professions and organisations were essential to the success of the research strategy

#### ***Agenda for the Future Development of Nursing and Midwifery***

The National Council for the Professional Development of Nursing and Midwifery, in its *Agenda for the Future Development of Nursing and Midwifery* (National Council, 2003), examined the progress of nursing and midwifery following on from the work of the Commission on Nursing (1998) and sought to encourage discussion of the future growth of the profession in the context of current health care policy. The *Agenda* report provided an assessment of general, sick children's, mental handicap, psychiatric, and gerontological nursing and midwifery in relation to continuing professional development, education for practice, research and planning, in association with consumer and health service requirements.

Participants in a consultative process said that the introduction of prescriptive authority for nurses and midwives should be a key issue on the agenda for future development for the professions. They spoke of opportunities for nurses and midwives to expand their scope of practices and being able fully to employ their skills, knowledge and professional experience, supported by educational programmes and health care management. They saw prescribing of medications as an essential area for advancement of the profession in continuing to meet the growing needs of service users. They said that intra- and inter- disciplinary approaches to continuing professional development were critical features of strategic planning for the future.

#### ***An Evaluation of the Effectiveness of the Role of the Clinical Nurse/Midwife Specialist***

This evaluation, conducted by the National Council (2004b), is a progress report on the development and implementation of the clinical nurse/midwife specialist role in the health care system. One of the objectives of the study was to establish the parameters of the current scope of practice of the clinical nurse/midwife specialist. Focus groups of CNSs and CMSs raised questions regarding service development, and considered that nurse/midwife prescribing was a critical activity for continued service development specific to their individual roles. They also suggested the establishment of more nurse/midwife-led clinics as possible venues for meeting service needs.

The report outlined the developments that are necessary in general nursing, midwifery, psychiatric, sick children, mental handicap and gerontological nursing to encourage the formation of the CNS/CMS role in service organisations. It said that the development of these roles must be consistent with service needs and supported by the appropriate third level education programmes specific to the area of practice. It cited nurse-led/midwifery-led care as a primary area for developing the role of the CNS/CMS, a point that was also made in the *Agenda for the Future Development of Nursing and Midwifery* (National Council, 2003).

The report recommended that the patient/client need should be acknowledged when developing the scope of the CNS/CMS role. On service, the report said that collaboration with the relevant stakeholders in establishing new posts for the CNS and CMS was important.

Nurses and midwives are key stakeholders in the agenda for change, and the expansion of scope of practice is essential in securing improvements in health care services. It is evident from the above policy reports that the professions require role expansion and greater clinical responsibility of patient/client care. This is supported by the results of consultative processes in many of these reports, in which nurses and midwives expressed their desire to contribute their knowledge, experience and skills in creating a better system of care that is patient-focused and is based on collaboration and interdisciplinary teamwork.

### **An Evaluation of the Extent and Nature of Nurse-Led/Midwife-Led Services in Ireland**

The National Council recently undertook a study to identify the extent and scope of nurse-led/midwife-led services in Ireland. The definitions of these services provided by the National Council are described below.

*Nurse-led care is distinct from nurse-coordinated or nurse-managed services. Nurse-led care is provided by nurses responsible for case management, which includes comprehensive patient/client assessment, developing, implementing and managing a plan of care, clinical leadership and decision to admit or discharge. Patients/clients will be referred to nurse-led services by nurses, midwives or other healthcare professionals, in accordance with collaboratively agreed protocols. Such care requires increased skills and knowledge and the nurse will need preparation in both the clinical and management aspects of the role. Such nurses will be practising at an advanced level and may be working in specialist or advanced practice roles. (National Council 2003)*

*Midwife-led care has been defined by the Cochrane protocol as "the context of care where 'the midwife is the lead professional in the planning, organisation and control of the care given to a woman from initial booking to the postnatal period' (RCOG 2001). "Within these models, midwives are, in partnership with the woman, the lead professional with responsibility for assessment of her needs, planning her care, referral to other health professional as appropriate, and for ensuring provision of maternity services"(Hattem et al 2004).*

The methodology employed for *An Evaluation of the Extent and Nature of Nurse-Led/Midwife-Led Services in Ireland* (National Council, 2005c) consisted of questionnaires, focus groups and a literature review. The questionnaire design aimed to identify if services were actually 'nurse-led or midwife-led' as opposed to being nurse-run or midwife run or nurse-managed or midwife managed, and elicit from respondents the type of nurse-led/midwife-led (if any) they had. A total of 306 questionnaires were sent to nursing and midwifery services. One hundred and forty seven were returned completed giving a total response rate of 48%. Of the 20 questionnaires sent to midwifery services in Ireland, four were returned giving a response rate of 20%. Three focus groups were held across the country with 26 nurses and midwives participants who were mainly assistant directors of nursing and midwifery and clinical nurse managers.

Forty seven percent of the questionnaire respondents stated that they provided nurse-led or midwife-led services whereas 50% stated they did not have nurse-led or midwife-led services. Using the definitions of nurse-led and midwife-led services 30% (44) fitted the criteria for nurse or midwife-led care, with the remaining 17% (25) not matching these criteria, as provided for by National Council. There was a diversity of the types of services (e.g. cognitive behavioural therapy, genetic counsellor: day services, lymphoedema clinic, paediatric endocrinology, women's health) provided, along with the years established. The questionnaire results showed that the many developments of nurse-led and midwife-led services for meeting the needs of patients and clients reflect multidisciplinary efforts of collaboration and continue to evolve based on the aim of nurses and midwives to advance quality care.

Findings of the focus groups with revealed a number of themes:

- Aspects guiding the development of nurse-led/midwife-led services
- Obstacles to their success
- Patient and client benefits.

Focus group participants specifically mentioned the lack of prescriptive authority as a barrier to establishing nurse-led/midwife led services. They acknowledged the current Review examining this issue. However they recognised that it will take time to adequately prepare practitioners to prescribe and see this factor as a short and medium term barrier to the delivery of these services.

The call for the introduction of prescribing by nurses and midwives is supported by these research findings which examined the extent and nature of these services provided by the professions with the aim of improving patient/client care.

### **Nurse Prescribing Issues for Palliative Care Nurses Working in a Community Setting**

During the course of this present review on nurse/midwife prescribing, the Irish Association for Palliative Care and Nessa Gill conducted a study, *Nurse Prescribing Issues for Palliative Care Nurses Working in a Community Setting* (2004). The study's main objective was to identify the issues with medication management practices including prescribing for palliative care nursing in Ireland. A mixed method approach was used with focus group interviews and semi-structured interviews with key stakeholders (e.g. palliative care nurses, medical and paramedical personnel, legal professionals and academics). Additionally a postal questionnaire was distributed to 139 palliative care nurses working in the community setting. A total of 65 nurses answered the questionnaire. Seven key issues were identified:



- Familiarity with the concept of nurse prescribing
- Types of medications that are currently being administered
- Role of the palliative care nurse in administration of medication
- Advice provided by palliative care nurses in relation to titration of medications
- Advice given by these nurses to the medical practitioner about prescribed medications
- Practice of palliative care nurses receiving telephone prescriptions
- The use of emergency packs of medications for specific symptom management.

These issues were linked with discussion about palliative care nurse relationships with the patient, family and other health care providers, education and training requirements for expanded practices of medication management and the associated legal and ethical implications. Recommendations generated from the research findings dealt with education and knowledge requirements, legal and ethical concerns, support structures, service, quality audit and practice review and research.

### **Midwifery Practice and Medicinal Products – Issues for Consideration**

In early 2005 the Midwifery Committee of An Bord Altranais in the context of revising the *Guidelines for Midwives* (An Bord Altranais, 2001), (see Chapter 6), examined the issue of midwifery practice with regard to medicinal products and medication management. The Committee provided the Project Team with a detailed exploration of the current practical and professional issues of midwives (especially those self-employed in community practices) in relation to the supply and administration of medicinal products required in their provision of care to a woman and her baby.

In particular, the difficulties with regard to midwives having clear authority and accessing supplies of medicinal products for the management of obstetric emergencies were described. A comparative study of international midwifery practices involving medications was included. The Midwifery Committee highlighted the need for midwives to be authorised to prescribe certain medicinal products in order that they may practice in line with the defined scope of practice as legislated for by European Council Directive 80/155/EEC and recognised by An Bord Altranais (Section 4 – *Guidelines for Midwives, 2001*).

The Midwifery Committee stated that present medicinal products legislation did not explicitly support midwifery practice as defined in the Directive and did not empower a midwife to perform his/her duties. Therefore the Committee advocated that a review of the legislation be undertaken by the Department of Health and Children and any new or revised legislation should be applicable to all midwives and should not differentiate between midwives practising in hospital or community settings or between employed or self-employed midwives.

The Committee referred to the *Misuse of Drugs Regulations, 1988 Articles 10 and 17* regarding the (community-based) midwife's authority to possess and administer pentazocine or pethidine<sup>2</sup>. It noted that legislation should be amended to grant authority to all midwives (regardless of practice setting) to prescribe and administer pethidine to a woman in labour as needed. As the use of pentazocine is not current practice reference to it in the Regulations should be removed.

They also recommended that An Bord Altranais should provide explicit advice that the use of over-the-counter medicinal products by midwives in their professional practice did not contravene any guidelines issued by the Board. These various issues were raised by the Committee in view of their ongoing work to produce an updated edition of the *Guidelines to Midwives* and with the view of identifying them for the context of this current review of nurse and midwife prescribing.

## **5.6. National Health Policy**

The current discussion of the future expansion of nursing and midwifery roles in medication management, specifically the authority to prescribe medications, must take into account the national health care strategy relevant legislation and regulatory standards. In recent years, national health policy in Ireland has undergone dramatic change. An extensive health service reform programme is underway to improve the nation's health care system, reconfigure existing services and processes of care and introduce new ones, and ensure quality and value for money. This requires health service providers, organisations and individuals to examine and modify current practices of care delivery in line with government initiatives.

<sup>2</sup>Midwives providing community based maternity services rarely utilise pethidine in their practice. Midwives providing maternity services in hospitals do utilise pethidine in their practice but can only do so based on a prescription for each individual woman. The Committee reported that Pentazocine is not a current treatment choice; anecdotally it was last used in the 1960s and on review of the literature no reference to its use in labour was found.

### **Quality and Fairness – A Health System for You**

The reform programme is directed by the national health care strategy - *Quality and Fairness: a Health System for You* (DoHC, 2001a). The strategy has four principles:

- Quality and fairness
- People centeredness
- Accountability
- Equity.

These principles have, in turn, determined four national goals for implementing the strategy:

- Better health for everyone
- Fair access
- Responsive and appropriate care delivery
- High performance

(DoHC 2001a).

Six frameworks structure the planned reform of the Irish health service. Each framework has been addressed in a dedicated report commissioned by the Government.

Strengthening primary care	<i>Primary Care: a New Direction</i>
Reform of acute hospital services	<i>Report of the Taskforce on Medical Staffing (The Hanly Report)</i>
Developing human resources	<i>Action Plan for People Management</i>
Funding	<i>Report of the Commission on Financial Management and Control Systems in the Health Service (The Brennan Report)</i>
Organisation reform	<i>Audit of Structures and Function in the Health System (The Prospectus Report)</i>
Information	<i>Health Information: a National Strategy</i>

The reform of the health services has been driven primarily by the Brennan and Prospectus Reports (Healthhub, 2005).

#### **The Brennan Report**

*The Report of the Commission on Financial Management and Control Systems in the Health Service* (the Brennan Report) (Government of Ireland, 2003) concluded that there was extensive fragmentation within the health service, without singular or organisational accountability for system performance. Existing systems of financial control, risk management and performance management were not working to capacity and did not have effective cost management. The report made 136 recommendations to introduce significant changes to the way in which the health care system is structured and managed. These recommendations included:

- The establishment of a Health Service Executive (HSE) to manage the Irish health service as a unitary national service
- A range of reforms to governance and financial management, control and reporting systems to support the HSE in the management of the system
- The designation of clinical Consultants and General Practitioners as the main units of financial accountability in the system
- Substantial rationalisation of existing health agencies

(Govenment of Ireland, 2003 p. 5).

As part of the rationalisation of agencies, the functions of An Bord Altranais and the National Council are being reviewed, with changes likely to occur in the structure and responsibilities of both bodies.

#### **The Prospectus Report**

*The Audit of Structures and Functions in the Health System (The Prospectus Report)* (DoHC, 2003c) examined health system reform and identified the need for changes in legislation and supporting processes in order to implement the health strategy. The report said that modernisation and reduction of fragmentation of services were essential. It emphasised the need to build on the current strengths of the system, allowing healthcare providers to effectively and efficiently contribute their skills and knowledge to change and improvement. It noted

that health professionals faced obstructions in carrying out their work. It stressed the goal of delivering a system of change by encouraging accountability of individuals and organisations and streamlining processes to ensure timely services and avoidance of duplication of effort by agencies. The report said that it was essential that nurses and midwives be consulted on their contribution.

The implementation of the health service reform programme has involved the reconfiguration of organisations and the creation of new agencies to support the change agenda. The central focus of the Department of Health and Children is policy formation and analysis. It is also responsible for ensuring that the HSE is accountable for its operations of delivering and managing health care services.

The HSE, which was established by the *Health Act, 2004* and came into operation on 1 January 2005, replaces the previous health boards. There are four administrative regions: Dublin/Mid-Leinster; Dublin/North-East; Southern and Western. There are three main divisions within the HSE: the National Hospitals Office, the Primary Community and Continuing Care Directorate and the National Shared Services Organisation, each responsible for contributing to the efficient and integrated service delivery of health care.

### **Primary Care**

The government goal of strengthening primary care is detailed in the report *Primary Care: A New Direction* (DoHC, 2001b). The main objectives in strengthening primary care are:

- Access of all to primary care services
- Improved relations between primary and secondary care services and providers
- Recognition of the significance of health promotion and disease prevention
- Multidisciplinary teamwork.

### **Reform of Acute Hospital Services**

The reform of the acute hospital system is based on policy initiatives such as the *Report of the National Task Force on Medical Staffing* (the *Hanly Report*) (DoHC, 2003d), which addressed the implementation of the European Working Time Directive (EWTD). This directive, which came into effect in August 2004, provides for the phased reduction of working hours for non-consultant hospital doctors over a five-year period, leading to a work week of 48 hours by 1 August 2009. This requires significant change and redesign of acute hospital services, including an assessment of current health care professionals' roles.

The introduction of EWTD will affect not only medical staff but all service providers, including nurses and midwives, who are frontline caregivers alongside non-consultant house doctors. A nursing sub-group, chaired by the Chief Nursing Officer of the Department of Health and Children, was established within the Medical Staffing Task Force to examine these interrelationships in detail. Its terms of reference were to examine resulting opportunities and challenges for nursing and midwifery. These included studying the impact of outcomes on patient care and reviewing the critical supports needed by nurses and midwives to implement these changes and allow new services to be introduced.

*The Challenge for Nursing and Midwifery: a Discussion Paper* (DoHC, 2003e), produced by the nursing subgroup of the Task Force, considered how the profession can contribute to the introduction of EWTD and the review of the Medical Staffing Task Force. Two regional pilot sites – the Mid Western Health Board and the East Coast Area Health Board – were selected by the Task Force to study the reconfiguration of services and focus group discussions were conducted in the two sites to discuss changes arising from EWTD. Participants said that the successful implementation of midwifery-led and nurse-led clinics would benefit from an expanded role for the professions in medication management that would encompass prescribing. Minor injury clinics were mentioned as an example of a setting where this could be introduced. Post-natal care was mentioned as a prime setting for the introduction of collaborative prescribing and standing orders, as this could reduce medication administration delays with less stress to patients.

The discussion paper said that there was need for a more explicit description of services that a nurse or midwife could offer, and provided a description of a specialist nurse to support the view that new roles and opportunities were continually emerging. The document noted that restructuring of the acute hospital services provided the impetus for nurses and midwives to become autonomous practitioners managing a caseload with admission discharge and prescribing privileges. This was in the context of the development of Clinical Nurse Specialist and Advanced Nurse Practitioner roles.

In relation to the discussion paper, the *Hanly Report* recommended that an expansion of the scope of nursing and midwifery practice be explored within the two pilot sites, with regard to determining how this expansion might be realized nationally, within the framework of the Task Force's review. It acknowledged that appropriate education, training and protocols would be required to support any enhancement of current roles for the nursing and midwifery professions.

### ***Explorative Study into the Expansion of Nursing and Midwifery Professional Roles in Response to European Working Time Directive***

The Nursing and Midwifery Planning and Development Unit (NMPDU) of the Mid-Western Health Board (MWHB), in response to the EWTD, studied the expansion of nursing and midwifery professional roles, including prescribing (MWHB, 2003). It conducted a series of focus groups within a variety of nursing and midwifery practice areas. These were used in the study and were also part of the Health Board's participation as a pilot project for the *Hanly Report*. Focus group participants noted that the coronary care unit of the Mid-Western Regional Hospital was one of the selected sites for the national pilot study of collaborative prescribing, and suggested that this was an opportunity to extend training for nurse prescribing outside of the designated unit to all departments and wards.

Feedback from general nurses, night managers, midwives and psychiatric nurses provided examples of practice settings where prescribing by nurses could be introduced for the benefit of service users. General nurses mentioned night sedation, uncomplicated analgesia, bowel preparations, selective IV therapy and the ability to prescribe treatment for wounds. Nursing managers working nights were more general in their comments, and said that nurse prescribing should be considered for all wards and suitably identified departments on a 24-hour basis. They did not mention specific drug categories or practice areas.

Midwifery views about prescribing, which would assist in the transition of reduced non-consultant house doctor numbers, included the introduction of prescribing for analgesia, Syntometrine®, Syntocinon®, iron and others. Midwives said that the facilitation of standing orders, where midwifery prescribing was unavailable, could also contribute to improved services. They said that midwifery prescribing would reduce delays in medication administration and reduce post-natal stress. They believed that appropriate training and guidelines to support the development of this expanded practice would be crucial.

Psychiatric nurses believed that service delivery for psychiatric clients could be improved with the nurse prescribing in this speciality, covering both acute units and community areas. They identified psychotropics, night sedation, uncomplicated pain relief, and emergency sedation as medications that could be prescribed by nurses with the use of protocols or guidelines, and said that authority for nurses to make decisions to order investigations and diagnostic tests, run clinics and prescribe treatments were primary elements in future role expansion.

Focus groups held in the non-acute sector identified a need for nurse prescribing by ANPs and said that the ANP role could be shared between hospitals and clinics. These focus groups clearly show the need and desire of nurses and midwives to expand their current practices of medication management, so that they can initiate and provide timely and comprehensive care as EWTD is introduced.

In the context of the EWTD and the service developments necessary to support its implementation, wide ranging discussions are currently underway between health care professions and service providers. There is a continued national debate about the structure and process required to fully execute this EU directive. The involvement of nursing and midwifery is essential in this debate if the health strategy's objectives, which include the delivery of responsive and appropriate care to the individual and family, are to be met. Nursing and midwifery have much to offer in achieving this objective, especially through nurse-led and midwifery-led clinics, and the continued development of the services of CNSs/CMSs and ANPs/AMPs to meet patient/client needs, in collaboration with other health care professionals.

A Nursing and Midwifery Subgroup of the European Working Time Directive Implementation Group has been set up and will report on these issues to the main group.

## 5.7. Other Policy Documents

The challenge for today's nurses and midwives is to use their skills, knowledge and experiences to meet the goals of the national health policy by delivering quality care in an ever-changing environment. One way to meet this challenge is through the expansion of current practice in providing holistic care in an interdisciplinary framework, as espoused in the national health strategy. The introduction of prescriptive authority for nurses and midwives is an important element of practice expansion. The consultative processes undertaken as part of the reports quoted in this chapter have shown that the traditional roles of health care professionals are no longer sufficient, and multidisciplinary teamwork is key to the success of the health care reform. The introduction of prescriptive authority for nurses and midwives supports the vision of the Irish government in its health policies to create an equitable, accessible, people centred, quality health care system for its citizens.

The health strategy and the health reform programme are the basis for current health care policy and guide the way forward for reorganisation and reconfiguration of health services. Other policy documents are relevant to expanded roles for nurses and midwives in medication management and indicate the existing and future impact of nurses and midwives in achieving the goals of the health care strategy.

### ***The National Health Promotion Strategy***

*The National Health Promotion Strategy 2000 – 2005* (DoHC, 2000) outlined a process for promoting a holistic approach to health in Ireland. The Strategy emphasised the role of inter-sectoral and interdisciplinary methods in establishing, implementing and evaluating health promotion. Strategic aims, objectives and prerequisites for health promotion were outlined in the Report, and were the basis for the creation of the National Health Care Strategy.

### ***Building Healthier Hearts***

*Building Healthier Hearts: Report of the Cardiovascular Health Strategy Group* (DoHC, 1999) made recommendations for improving the cardiovascular health of individuals and providing services for cardiac care across primary, secondary and tertiary levels. It recommended co-ordinating health promotion activities nationally and locally to make the most of the involvement of public health nurses and other community-based health professionals, specially trained practice nurses, who could provide much of the counselling/advice and follow up for secondary prevention of patients with cardiovascular disease. The report highlights the need to create and implement national guidelines and protocols for the treatment of chronic cardiovascular disease and related conditions, management of heart failure, and care of the patient in the acute setting with suspected acute coronary syndromes or stroke. These broad recommendations present significant prospects for nursing to contribute to improving services to those affected by cardiovascular problems, particularly as they relate to the chronic nature of disease, and the need for close management of prescribed treatments, especially medication.

### ***What We Heard and Speaking Your Mind***

A national policy framework is being developed for Irish mental health services through the work of the Expert Group on Mental Health Policy established in 2003. The Group has produced two important reports – *What We Heard* and *Speaking Your Mind* (Expert Group on Mental Health Policy, 2004a and 2004b) – that illustrate the concerns of mental health consumers and providers relating to the present state of the mental health service and its future development. In these reports, service users and health professionals shared their concerns about the use and misuse of medications in the treatment of psychiatric illness. Over-reliance on medications was a common theme. Many submissions highlighted the need for a multidisciplinary health care team that would be accessible at a primary care level. It was suggested that collaborative practices and research between health care professionals could lead to alternative therapies for treatment planning. The mental health nurse was identified as a strong resource for community-based care, with the clinical nurse specialist seen as an essential team member in providing a more holistic service.

These reports add to the growing body of evidence that demonstrates the need for role expansion of nurses that can enhance delivery and outcomes of mental health services.

### ***An Evaluation of Cancer Services in Ireland: A National Strategy***

*An Evaluation of Cancer Services in Ireland: A National Strategy 1996* (DoHC, 2003f) examined to what extent the objectives and actions of the 1996 national cancer strategy were achieved and identified the gaps that existed in Ireland's cancer services. The report said that patient information and communication needs had been improved with the appointment of clinical nurse specialists, oncology nurses, cancer liaison nurses and cancer nurse co-ordinators. A key recommendation was for the use of evidence-based practice for all aspects of cancer control and decision-making, including the use of clinical guidelines and integrated care pathways. Linking this with a recommendation for patient management through an integrated multi-disciplinary approach, the report said that health care professionals and service organisations should effectively utilise and develop the skills,

knowledge and experience of nurses practising in these areas to improve standards of care and help to eliminate the gaps in service.

### ***The Development of Radiation Oncology Services in Ireland***

*The Development of Radiation Oncology Services in Ireland* (DoHC, 2003g) outlined the issues surrounding the improvement and future planning of this specialised and complex area of health care. An expert working group, as part of its remit, analysed staffing requirements for the provision of service. The group acknowledged that, in order to deliver quality radiation oncology, care health care systems must employ highly competent nursing staff across all grades. The group cited the roles of the clinical nurse specialist and advanced nurse practitioner as key participants in radiation therapy. This supports the recommendations in the *National Cancer Strategy* report for developing clinical protocols originating from evidence-based practices. It reinforces the potential benefits of expanded practices of nurses, as demonstrated by other current health policies for cancer care.

### ***Report of the National Advisory Committee on Palliative Care***

*The Report of the National Advisory Committee on Palliative Care* (DoHC, 2001c) studied the services of palliative care for patients/clients in relation to the role of the specialist palliative care nurse, in collaboration with the general practitioner. The report cited the need for assessment and anticipation of planning for pain relief, particularly in regard to access of medicines in the community. It said that difficulties in obtaining analgesia in these community situations were noted by primary health care professionals and community-based pharmacists, and it recommended that local arrangements for supplying the necessary medications be formalised amongst the key individuals. The nurse specialising in palliative care in the community is well placed to facilitate improvements in pain management through expanded practice, and should be supported through appropriate education and regulation.

### ***Review of Maternity Services in the North Eastern Health Board***

The North Eastern Health Board undertook a review of its maternity services in 2000 and 2001. The review of the *Maternity Services Review Group to the North Eastern Health Board* (2001), also known as the *Kinder Report*, said that midwife-led units were required in Cavan and Drogheda hospitals, followed by Dundalk and Monaghan hospitals. It emphasised the need for community midwifery services, linked with a home birth team. Recommendations to support the development of these units included improved staffing numbers, training, and communication amongst health care providers and service users.

A report by Comhairle na nOspidéal (2003) reiterated the Kinder Report recommendation for midwife-led units which would provide for antenatal, intrapartum and postnatal care to women who were identified as low intrapartum risk. Again, communication and collaboration between midwives, consultants and general practitioners were seen as critical. The current implementation and evaluation of these units in Cavan and Drogheda will contribute to the debate of expanded practices of midwives involving medication management.

## **Summary**

The context for an expanded scope of practice for medication management by nurses and midwives in Ireland is influenced by history, legislation, professional regulation, health care policy and the current health service reform programme. An exploration of these variables has been undertaken in this chapter. The educational and clinical practice advancements were examined in association with the establishment of the statutory organisations (An Bord Altranais and the National Council) that support nurses and midwives. The legislation governing professional practice and medicines was described. Relevant nursing and midwifery reports that contributed to the impetus for and inform the current review were examined. Governmental health policy was reviewed along with other national documents providing a framework for establishing the need for and support of expanded roles for medication management for the professions.





## CHAPTER 6

# Professional Guidelines

### 6.1. Introduction

The professional guidelines developed by An Bord Altranais, in conjunction with relevant legislative regulations and health care policy, determine the current scope of practice of nurses and midwives. Nurses and midwives must be knowledgeable of their professional accountability within these guidelines, especially when expanded scopes of practice in prescriptive authority are being considered.

There are four key guidelines that facilitate decision making for nurses and midwives in the context of regulation and professional practice.

- *Code of Professional Conduct for each Nurse and Midwife* (An Bord Altranais, 2000d)
- *Scope of Nursing and Midwifery Practice Framework* (An Bord Altranais, 2000e)
- *Guidelines for Midwives* (An Bord Altranais, 2001)
- *Guidance to Nurses and Midwives on Medication Management* (An Bord Altranais, 2003).

### 6.2. Code of Professional Conduct for each Nurse and Midwife

Resulting from its responsibilities in the *Nurses Act, 1985*, An Bord Altranais provides a *Code of Professional Conduct for each Nurse and Midwife* which is "a framework developed to assist nurses and midwives in making professional decisions, to carry out their responsibilities and to promote high standards of professional conduct." (An Bord Altranais, 2000d). The Code enables the nurse and midwife to practice in a competent manner, which is defined as the "the ability of the nurse or midwife to practice safely and effectively fulfilling his/her scope of practice. In determining his/her scope of practice the nurse or midwife must make a judgement as to whether he/she is competent to carry out a particular role or function. The nurse or midwife must take measures to develop and maintain the competence necessary for professional practice." (An Bord Altranais, 2000d).

The Code also specifies that:

- "The nursing profession demands a high standard of professional behaviour from its members, and each registered nurse is accountable for her/his practice."
- "Any circumstances which could place patients/clients in jeopardy or which militate against safe standards of practice, should be made known to appropriate persons or authorities."
- "The nurse must acknowledge any limitations of competence and refuse in such cases to accept delegated or assigned functions."
- "The nurse shall work in close co-operation with members of the health professions, and others, in promoting community and national efforts to meet the health needs of the public."

(An Bord Altranais, 2000d).

### 6.3. Scope of Nursing and Midwifery Practice Framework

The *Scope of Nursing and Midwifery Practice Framework* (An Bord Altranais 2000e) was developed by the Board to provide nurses and midwives with guiding principles for examining, defining and further developing professional practice. It presents the concept of scope of practice, along with the values that form the basis for professional practice and contribute to the philosophy of nursing and midwifery. The key determinants for the scope of practice are:

- Competence
- Accountability and autonomy

- Continuing professional development
- Support for professional nursing and midwifery practice
- Delegation
- Emergency situations

(An Bord Altranais 2000e, p. 2).

Each of these are addressed as they apply to nursing and midwifery care.

There are eight principles for determining scope of practice, and these form the decision-making framework that should be used in considering the nursing/midwifery role/function:

1. The primary motivation for expansion of practice must be in the best interest of patients/clients and the promotion and maintenance of the best quality health services for the population.
2. Expansion of practice must be made in the context of the definitions of nursing/midwifery and the values that underpin nursing/midwifery practice.
3. Expansion of practice must only be made with due consideration to legislation, national policy, local policy and guidelines. If necessary at local level, appropriate policies/protocols and guidelines should be devised and appropriate supports put in place.
4. In determining his/her scope of practice, the nurse/midwife must make a judgement as to whether he/she is competent to carry out the role/function.
5. The nurse/midwife must take measures to develop and maintain the competence necessary for professional practice. The nurse/midwife must acknowledge any limitations of competence.
6. Expansion of practice must be based on appropriate assessment, planning, communication and evaluation.
7. The nurse/midwife who is delegating a particular role/function (the delegator) is accountable for the decision to delegate. This means that the delegator is accountable for ensuring that the delegated role/function is appropriate and that support and resources are available to the person to whom it has been delegated. The nurse/midwife (or other person) receiving a delegated role/function is accountable for carrying out the delegated role/function. This means that the nurse/midwife (or other person), on acceptance of a delegated role/function, is accountable for the appropriate performance of that role/function.
8. The individual nurse/midwife is accountable for his/her practice. This means that he/she is accountable for decisions he/she makes in determining his/her scope of practice. This includes decisions to expand or not to expand his/her practice.

(An Bord Altranais 2000a, p. 32).

These principles encompass the core values of nursing and midwifery and provide the framework for creating a structure to introduce professional regulations for prescriptive authority for nurses in Ireland, regardless of what model will be introduced in the future.

## 6.4. Guidelines for Midwives

An Bord Altranais has provided *Guidelines for Midwives* since 1990, with the third and most recent addition edition published in 2001. Two main objectives of this edition were:

1. To present the legislation that governs and advises midwifery practice and inform the profession of the accountabilities and responsibilities of a registered midwife.
2. To give guidance to registered midwives and facilitate decision-making promoting practices and care that are based on best available evidence.

*Guidelines for Midwives* presents the philosophy of midwifery, the definition of midwifery and associated scope of practice as viewed by the Board. The guidelines address the key issues for midwifery such as home births, emergency situations and deviations from the norm, use of complementary therapies, record-keeping and responsibilities in relation to child protection and welfare. The use of medicinal products by midwives is presented with reference to the pertinent medicinal products and misuse of drugs legislation. A revised edition of the *Guidelines* is currently underway and will be published in late 2005. A consultative process for submissions on proposed changes to the guidance document has been undertaken as part of this work.

## 6.5. Guidance to Nurses and Midwives on Medication Management

An Bord Altranais regulates the actions of nurses and midwives under the medicines legislation and provides guidelines for their practice involving medications. The first guidelines for nurses and midwives on the administration of medicinal products were published in 1990 and have been revised on a number of occasions since (An Bord Altranais, 1992 1993; 1995; 1997; 1998; 2000e, 2003). As part of this Review the Project Team prepared a revised edition of *Guidance to Nurses and Midwives on the Administration of Medical Preparations* (see Chapter 8).

The current *Guidance to Nurses and Midwives on Medication Management* (An Bord Altranais, 2003) reflects the expansion of nurses' and midwives' practice in relation to medications. It introduces the concept of medication management, as the traditional roles and responsibilities of the nurse and midwife have extended beyond administration to embrace the assessment, planning, implementation, and evaluation of nursing and midwifery care associated with medications and patient/client care.

The document outlines the key points associated with medication management, and the related principles, to ensure effective, safe and ethical practice with reference to the *Scope of Nursing and Midwifery Practice Framework* (An Bord Altranais, 2000d). The document states the necessity for the nurse/midwife to be knowledgeable about the relevant statutes and legislation regarding medication management practices. It emphasises the collaborative and interdisciplinary nature of medication management, particularly as it relates to the development of policies and protocols within health care organisations and other areas where nursing and midwifery care is provided. The *Guidance* calls for continued competence in the professional development of knowledge and skills in all aspects of clinical practice.

### Summary

An Bord Altranais has developed guidelines for nurses and midwives to facilitate their decision making in the context of regulation and professional practice. These guidance documents aid a nurse or midwife in determining his/her scope of practice in association with related legislation and health care policy. The four key guidelines presented were:

1. *The Code of Professional Conduct for each Nurse and Midwife* (An Bord Altranais, 2000d)
2. *Scope of Nursing and Midwifery Practice Framework* (An Bord Altranais, 2000e)
3. *Guidelines for Midwives* (An Bord Altranais, 2001)
4. *Guidance to Nurses and Midwives on Medication Management* (An Bord Altranais, 2003).

These documents give a foundation for the practitioner in making professional decisions to practise competently and safely. Collaboration and the multidisciplinary aspects of providing patient/client care are recognised within the guidelines and are considered for the expansion of practice for nurses and midwives.





# Section 3

## PROJECT ACTIVITIES



## Section 3 - Outline of Content

**Chapter 7** details the medication management seminars and the focus group discussions held. The findings of the focus groups are presented in a thematic approach relating to the introduction of prescriptive authority and current concerns shared by nurses and midwives for medication management.

**Chapter 8** provides the process involved for the revision of An Bord Altranais guidelines for nurses and midwives on medication administration. Medication management is formally introduced in the updated document *Guidance for Nurses and Midwives on Medication Management* (An Bord Altranais, 2003). The queries received as part of the Education Department Enquiries Database are also presented as they contributed to the content development of the document.

**Chapter 9** describes the needs assessment survey undertaken with nurses and midwives, further studying the needs of the professions for prescribing. Seven objectives framed the reporting of the findings. They involve determining the need, the type of prescribing model considered for practice, practice settings for prescribing, benefits, resources required for its introduction, reasons for not wanting to prescribe and determining the categories of medications needed to prescribe.

**Chapter 10** presents the analysis of the exploration of need survey which was undertaken to ascertain the views of key stakeholders on the need for nurse/midwife prescribing. Representatives of patient organisations, academic and professional associations and statutory bodies representing nursing, midwifery, medicine and pharmacy shared their views about the various prescribing practices, perceived benefits to the patient/client and assuring quality and safety assurance for this expanded authority.

**Chapter 11** details the study of collaborative prescribing by nurses and midwives within the pilot sites. The supporting structures for the study are described, including the medication protocol framework, competencies for collaborative prescribing and the development of the educational programme. The implementation and evaluation phase for the nine participating sites are presented, encompassing the findings of the clinical decision-making audit tool, patient satisfaction with information on their medicines and the perceptions of the participating nurses, midwives, clinical mentors and pharmacists.

## CHAPTER 7

# Medication Management Seminars

### 7.1. Introduction

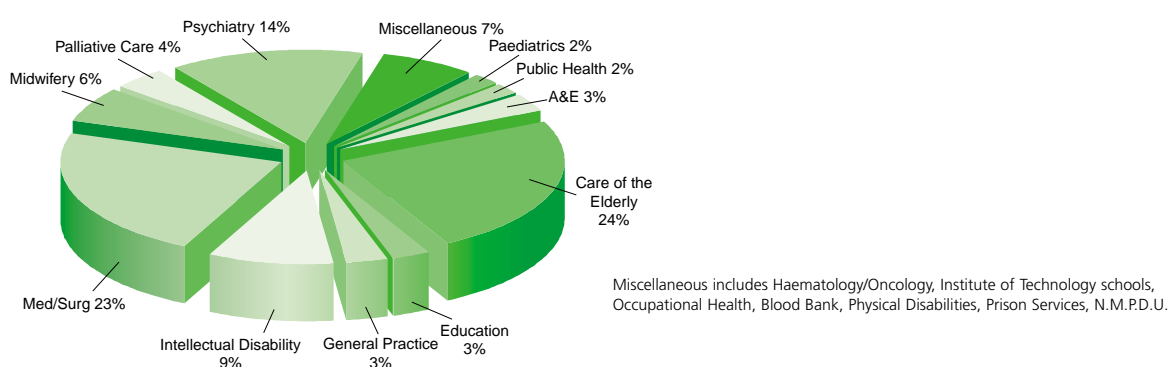
Early on in the Review, the Steering Committee determined that, prior to conducting a needs assessment survey, nurses and midwives needed to be better informed on the issues surrounding medication management, particularly with regard to prescribing of medicines. In response, the Project Team organised a series of medication management seminars for nurses and midwives, which were held during November and December 2002.

In addition to improving awareness and knowledge, the seminars had a second purpose, which was to examine, through focus groups, the current practices of nurses and midwives in relation to medication management.

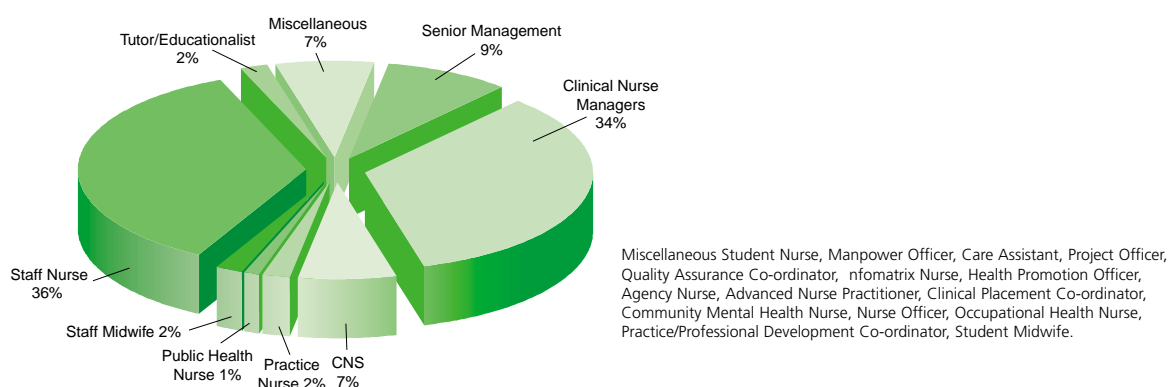
### 7.2. Seminar Planning and Delivery

The seminars were promoted in September and October 2002 through the newsletters and websites of An Bord Altranais and the National Council and in Irish nursing journals. Details of the seminars were circulated to all the Directors of Nursing and Midwifery and professional and speciality nursing organisations for wide distribution. Nurses and midwives attending were asked for their area of practice (i.e. public health, medical/surgical) and their current position (i.e. staff midwife/nurse, clinical nurse manager) within the health care service. This information was used to devise the focus groups (See Chart 1 and Chart 2). The seminars were delivered at ten venues, covering each of the then health board areas. Two hundred places were assigned to each venue, a total of 2,000 nationally. They were conducted both in the morning and afternoon to facilitate the various duty rosters.

**Chart 1: Practice Area of Attendees**



**Chart 2: Position/Title of Attendees**





### 7.3. Content of Seminar

The seminars began with a presentation by the Project Team, which included:

- An overview of the project to date
- Concept of medication management and associated activities
- Process of prescribing
- Models of prescribing and international experience
- Research studies on nurse/midwife prescribing.

### 7.4. Focus Group Process

The presentation was followed by focus group discussions. Focus groups are interactive group interviews, a format that encourages participants to explore, share and clarify their views in ways that are not possible in one-to-one interviews. Group discussion is particularly appropriate when the interviewer has a series of open ended questions and wishes to encourage the participants to explore the issues of importance to them, in their own vocabulary, generating their own questions and pursuing their own priorities.

Nurses and midwives were asked about their practices of medication management for three reasons:

1. To learn about their present practices of medication management and thereby identify any areas that might need to be addressed in future revisions of the guidance document on medication management.
2. To invite the participants to offer comments and suggestions on practices and activities that have improved medication management in their settings and/or could be employed to do so.
3. To explore the need for nurses and midwives to prescribe was a primary focal point for discussion, in order to inform the Review.

Facilitators and notetakers were primarily identified through the Nursing Midwifery Planning Development Units, higher education institutions and the Nurse Practice Development Units of health care organisations. In addition to the topic guide a facilitator's handbook was devised to assist the facilitator by illustrating the basic procedures for conducting a focus group. A field note reporting form was disseminated prior to the seminar dates.

The focus group sessions lasted 1½ hours and the information shared was recorded on flip charts by the facilitator and the field note reporting form by the note-taker. At the end of each session the facilitator summarised the findings with the participants for the purpose of ensuring face validity. A total of 152 focus groups were conducted, with over 1,200 nurses and midwives.

### 7.5. Results of Focus Group Discussions

In response to the question "What could be done to improve current practices of medication management for nurses and midwives?" the groups overwhelmingly identified the need to prescribe, with many different viewpoints on the subject. There were no noticeable differences in the need for nurse prescribing based upon the different practice settings of the groups (for example, oncology v care of the elderly).

Four main themes were derived from the discussions:

#### **Theme 1 - *The Rationale for the Introduction of Nurse Prescribing***

The rationale for expansion of the nurse/midwives role was a recurrent theme to emerge within most of the groups. Specifically, nurses said that this expansion should be considered for the right reasons, i.e. to improve patient care and not as a solution to medical manpower issues.

##### **Medical Manpower**

Nurses believed that similar initiatives were introduced in other countries as a short-term response to the shortage of doctors and were adamant that this should not be the impetus in Ireland. They also questioned whether prescribing would expand the role of nurses or turn them into doctors. Participants stated although they were interested in expanding their roles they were concerned about taking on doctors' responsibilities for convenience sake and not on their own terms. Caution was advised with emphasis on developing this initiative based on benefits to the patient.

##### **Time Wasting**

The groups believed that nurse prescribing would alleviate time-wasting, a common problem they experienced owing to the inability of nurses and midwives to prescribe. Some participants described how they had had to

wait for doctors to come to their practice setting to write prescriptions for their patients and who were delayed for various reasons. These delays were described from being between a few hours to one month. This was said to result in less than optimal patient care and frustration for nurses and an under-use of their expertise.

"In intellectual disability, it is a huge problem, and we may have to wait up to a month to have [prescription] changes made and this is not in the best interest of patients." (senior managers group participant)

The situation was particularly frustrating regarding the supply of OTC medications. Nurses stated that it made no sense not to be able to initiate an over-the-counter medication to a patient when they could buy it themselves without any prescription. Likewise, having to call a doctor in the middle of the night to write a patient up for a Panadol was not considered appropriate use of resources. Nurses said that they had previously carried out this activity but believe that they were now inhibited by the *Scope of Nursing and Midwifery Practice Framework* (An Bord Altranais, 2000e).

"The anomaly between the decision to 'prescribe' paracetamol for yourself or family at home and the inability to make that same decision for a patient in your care is ridiculous and needs to be addressed urgently." (care of the elderly group participant)

Nurses working in hospitals identified the problems of time wasting and the adverse effects on patients. However, nurses working in community settings believed that geographical location was a more important issue. For that reason alone, the introduction of prescribing by nurses was questioned as being a need at all for those working in acute areas.

"In hospital settings it is a moderate problem, in community setting it is a bigger problem, because there are no medical personnel." (paediatrics and midwifery group participant)

### Current Practice

In view of the problems highlighted above, nurses said that, in many instances, they had to employ a variety of negotiation styles in order to achieve a prescription that met the needs of their patients. One example mentioned involved prescribing a number of medications in advance for each patient. The decision as to which drug was then supplied to the patient was left to the nurse's discretion. The risks associated with this method were recognised by the nurses. An even more worrying method in practice was that of using rubberstamped prescriptions whereby the nurse would write the prescription and ask the medical practitioner to sign it.

Many nurses admitted to supplying patients with over-the-counter medications and saw the need to prescribe as doing no more than legitimising their current practices. Many agreed that, informally, they were prescribing already and that nurse prescribing would help relieve some of the problems at present in the system. One group said that they were engaging in the role of prescribing through the use of a wide range of p.r.n. medications (PRNs). In the main, the drugs supplied by the nurses were OTCs, but there were instances of prescription-only drugs and even controlled drugs being supplied.

Wound dressings would seem to be one of the most common medicinal products to be supplied in the community without a prescription and nurses reported that these were not viewed as medications by GPs.

### Interest of Patients

One important element cited by participants for consideration for prescriptive authority was that it should be done first and foremost in the interest of patient care. They said that any expansion should be considered in a cautious manner, and not a reaction to present difficulties with medical manpower.

"Expansion of role should only be done in the interest of patients and not to their detriment. The extension of role is not appropriate as this may be seen as the nurse receiving the delegated roles of the doctor." (paediatrics and midwifery group participant)

## Theme 2 - Benefits of Nurse Prescribing

In discussing the benefits of nurse prescribing, some participants said that formalising the process of prescribing through legislation would clarify what they were authorised to do. It would improve patient care and have a positive effect on the professional development of nursing.

### Legal Clarification

Some nurses indicated that whatever model of prescribing was introduced it would be an improvement on the present practice of using one's scope of practice to guide decisions in medication management – which was a cause of some confusion, particularly practices that were considered *grey areas*, such as verbal orders and emergencies. Authority for nurses to prescribe was seen as one way of alleviating uncertainty for nurses in these

situations. One participant noted that legal clarification would also acknowledge their own present expanded practices.

### **Safer Patient Care**

Quality patient care was considered one of the main outcomes of introducing nurse prescribing, with participants in most of the groups stating that it would make practices safer. These nurses espouse a holistic model of care and considered nurse prescribing to be in keeping with it.

"It will impact positively on the experience of the service user. It will enable nurses to provide enhanced quality care." (care of the elderly group participant)

### **Influence of Nursing**

Participants discussed the positive contribution that nurses could make to prescribing. They particularly emphasised the benefits of the close nurse/patient relationship. Experience and specialisation were seen as positive components of prescribing. One respondent noted that nurses with extensive experience working in certain areas such as dermatology and A&E may be in a better position to prescribe. Nurse-led care was also seen as a positive influencer for its introduction.

### **Professional Development of Nursing**

The benefits of prescribing for the professional development of nursing were discussed, mostly amongst the care of the elderly group. These nurses asserted that the introduction of nurse prescribing was a move in the right direction, and would have a positive impact on the profession, making it more recognised and respected. Others viewed prescribing as a constructive move, in keeping with the international practices. A participant in the paediatric/midwifery group believed that advanced nurses were lacking by not being able to prescribe.

### **Less Stressful Work**

Participants believed that there would be a decrease in overall stress levels as a result of being able to prescribe.

### **More Timely Treatment for Patients**

Participants spoke of immediate benefits within everyday practice settings, principally a reduction in delays for patients and making life easier overall. Specifically mentioned was the delay experienced in A&E departments with prescribing reducing delays in patient care. Again, a decrease in the stress levels of nurses was also mentioned.

### **Cost-effectiveness**

Some participants suggested that introducing nurse prescribing would be a cost-effective exercise that would benefit the Department of Health and Children. A participant in the senior managers group had the opinion that nurse prescribing would be cheaper compared to doctors prescribing. No additional views were shared as to how this cost-effectiveness could be achieved.

## **Theme 3 - Models of Prescribing**

Participants differed about which model would suit their practice best. The majority did not want full independent authority to prescribe. They believed that limited prescribing, guided by one's scope of practice within a collaborative practice would meet their needs. However, some considered that the use of protocols, and even the authority to merely initiate over-the-counter medications would suffice. Some had no desire to implement any of the models within their practice, and the idea of prescribing was met with reservations and a need for caution in its introduction.

### **Limited Prescribing**

In all groups, participants believed that nurse prescribing should be limited to each nurse's scope of practice. Many nurses proposed prescribing from a limited drug formulary with authority only to prescribe certain drugs. It was recognised that being an expert and experienced in one area did not extend to other areas. Agreed restrictions for prescribing were debated. However it was not made known as to who should be involved in determining these limitations.

### **Collaboration**

Many nurses said that a collaborative approach to nurse prescribing was important. A multi-disciplinary approach was recognised by participants as an absolute requirement for prescribing. Providing support and confidence boosting were seen as advantages in this model of practice.

## Protocols

The need for protocols was also deliberated, with a number of nurses suggesting that protocols should be standardised nationally. Some participants identified that a common drugs protocol was needed in all hospitals. A participant who worked in the prison services believed that a drug protocol list (agreed locally) should be developed for nurses prescribing in these services and wanted to see this implemented nationally. Protocol management was seen by some as the way forward for expanded medication management practices.

There was one comment on the need for titrating medications as opposed to initiating new prescriptions:

"Have certain guidelines for upping or reducing the range of a drug. It's adjustment rather than starting off on a drug." (paediatrics group participant)

## Initiation of OTCs

Providing for over-the-counter medications was, without exception, asserted to be the most pressing prescribing need in all practice settings, including hospital and community settings. Frustration at not being able to do so for their patients was prevalent amongst all groups. Mostly, there were no limits suggested on who should be able to prescribe OTCs. However, in two groups it was suggested that nurses should have training or that they should be a number of years post registration. One participant suggested that a nurse qualified between three and five years should be authorised to prescribe these medications. There were differing views on allowing the supply of OTCs under protocol, with some expressing concerns that the current practice of using "pre-prescribed sheets" was unsafe. Authority given to nurses to supply OTC medications was a suggested improvement.

## Independent Nurse Prescribing

The majority of nurses believed that independent prescribing was appropriate only for advanced nurse practitioners or specialists. The need to prescribe autonomously was mentioned. One participant commented that prescribing should be aimed at the ANP level initially as a pilot and then extended, depending on results. Some participants said that appropriate resources and education would need to be in place to support this extension. Some, however said that they disagreed with extending independent prescribing to others, citing that would there be varying levels of responsibility based on one's position and could this lead to de-skilling the ANP.

Conversely, other participants believed that a wealth of experience would be lost if prescribing was limited to the ANP. The question was also posed as to how many nurses were expected to take this route. A senior nurse manager expressed the view that nurse prescribing was seen to be achievable by all, not only at specialised levels. Specific practice settings, i.e. care of the elderly and community care were mentioned for initiating prescribing rather than restricting it to the ANP or CNS.

In opposition to the above viewpoints some nurses had no desire to prescribe using any of the models presented. They expressed nervousness in taking on this new role, citing fears of increased accountability, responsibility and workload. As a result of the increased accountability associated with the authority to prescribe, some nurses did not want to take on this role particularly with regard to possible legal consequences, such as litigation.

Some nurses viewed the use of PRNs as adequate for their practice. Whilst acknowledging the clinical decision-making required by them in administering a medication from a PRN order, they noted that ultimately they were not accountable for the prescribing decision and were satisfied with this.

Some believed that, if nurse prescribing were introduced, every nurse could choose to accept or not, this expansion of their role.

## Types of Practice Areas

Participants who recognised the need for independent nurse prescribing outlined a number of suitable practice areas and discussed the types of medications needed for their patients. Many of the areas mentioned were practices where the care was nurse-led, or was given by clinical nurse specialists. Community psychiatric nursing and practice nursing were also mentioned as appropriate areas. Participants voiced the concern that the focus for this expansion should not be solely within the acute care sector.

The types of medications that nurses would like to prescribe were the same for all groups, with OTCs mentioned by all. Many participants listed the drug categories they thought necessary for their practices.

"Nurses in triage should be allowed to prescribe OTC medications, anti-emetics, analgesia, and nebulisers in A&E to meet patients needs." (medical/surgical group participant)

"We would like to be able to prescribe analgesics, e.g. Panadol, Brufen, Calpol – experienced nurses/midwives with support of medical personnel." (paediatrics and midwifery group participant)

## **Theme 4 - Essential Elements for Introduction of Nurse Prescribing**

The groups discussed the criteria necessary for the introduction of prescribing. These were education, recognition of experience, accountability, resources and, to a lesser degree, support from the medical profession.

### **Education Preparation**

Nurses agreed that a comprehensive educational programme must be provided for the nurse prescribers, be it limited or full independent authority. There was debate surrounding how much education was required.

"Education and rigorous preparation would be the key to success." (care of the elderly group participant)

Whilst most nurses favoured limited prescribing, they recognised that a vast amount of pharmacology was required, as well as training in physical assessment and diagnoses.

Most participants believed that educational preparation for prescribing would require post-graduate education, and would not like to see this leading to nurses requiring masters level education, (generally the international standard). One participant suggested that it should be built into the undergraduate degree programme.

There was also some debate regarding the difference in education required for prescribing OTCs compared to that required for prescribing prescription drugs.

"Prescribing OTCs, should depend on the nurse's competency and experience." (medical/surgical group participant)

One participant suggested that a joint education programme for nurses and doctors could be an option for the introduction of nurse prescribing, in order for each to gain understanding of the other's professions scope of practice.

### **Recognition of Experience**

Participants in a number of groups asked about the recognition of a nurse's/midwife's previous experience, with many positing that it should hold some weight when considering the criteria for nurse prescribing. Students at present pursuing degrees and progressing on to a master's programme were seen as posing a threat to some who expressed the possibility of being ignored. One group asked if experience and course work would count as part of the yet established criteria.

### **Legislation and Insurance**

A number of issues were raised regarding legislation for prescriptive authority for nurses. Some said that actions such as titrating medications, needed legal clarification. Legitimising current practices was seen as a significant need. One group (palliative care) said that the law needs to recognise their speciality and should broaden the scope of where responsibility lies for medication management.

"I would like everything I am doing at the moment to be legal." (oncology/palliative care group participant)

Many asked if they would require independent insurance coverage if they were to prescribe.

"Insurance cover for self or hospital or employer, who is responsible?" (medical/surgical group participant)

The need for more rigorous record-keeping was mentioned by a participant as a result of the increased accountability perceived with prescribing.

"Documentation would need to be more rigorous if nurse prescribing were introduced." (oncology/palliative care group participant)

### **Resources**

The question of necessary resources for nurse prescribing was raised but only by those working within the acute hospital sector. The development of IT systems was one resource identified for prescribing. Some participants (medical/surgical) expressed an awareness of the scale of investment needed in the face of limited resources.

Mention was made of the cost of replacing nurses attending education programmes in preparation for prescribing and the release time required for nurses to take on this new role was seen as a problem.

"It's alright saying we need a load of study days, but no-one is provided to see our patients whilst we are away. I can't see anyone from our area being able to be trained up!" (care of the elderly group participant)

Some nurses believed that they should be remunerated financially for the expansion of their role to prescribing. They noted that the increased responsibilities associated with this practice should be linked to a pay review. They saw financial reward as a critical element in this expansion.

### **Support from the Medical Profession**

Discussion about support (or resistance) from the medical profession came mostly from those nurses in the community, who work with general practitioners. They cited many examples that were indicative of resistance from doctors. Mention was made about the loss of power that may be experienced by doctors as a result of master's prepared nurses diagnosing patients. Some participants were sceptical that there would ever be collaboration in patient medication management.

The apposite view was also expressed as a senior manager participant remarked that GPs were looking forward to this development in expanding nursing practice. Some nurses working in the medical/surgical area suggested the need for a change in cultural attitudes to nurses' advanced practice, not only by doctors but also by other staff and patients.

## **Summary**

The medication management seminars and focus groups were conducted in the early stage of the Review. The groups were organised according to practice area and current position, with over 1,200 people taking part. This activity supplied substantial data on the practices and concerns of nurses and midwives involving medicines especially the participants' views regarding the introduction of prescribing. Four main themes were extracted from the focus groups: the rationale for the introduction of prescribing; the benefits of prescribing; discussion of the various models of prescribing; and the critical elements for its initiation. Multiple topics were discussed within each theme, revealing that many nurses and midwives believed that medication protocols and initiation of OTCs would support their practice. A number stated that independent prescribing would be necessary for their scope of practice. Participants stated that expanded practices should be for the benefit of the patient/client. The concerns of current medication activities were also raised in the context of considering prescriptive authority.





## CHAPTER 8

# Revision of Guidance Document

### 8.1. Introduction

The Project Team has revised *Guidance to Nurses and Midwives on the Administration of Medical Preparations* (An Bord Altranais, 2000b). The *Review of Scope of Practice for Nursing and Midwifery, Final Report* (An Bord Altranais, 2000a) had concluded that nurses and midwives found the existing version to be both ambiguous and lacking in clarity. Members of the professions, including participants in the medication management seminars voiced their concerns about the inadequacy of the document as a reference for their practices involving medications.

### 8.2. Medication Concerns

The Project Team has dealt with medication management queries from the profession and others who have contacted An Bord Altranais for advice and information. The Project Team has recorded all queries on an Education Department Enquiries Database (EDED), that has contributed to the wealth of qualitative data collected by the Project Team in relation to understanding the concerns of nurses and midwives on medication management and its associated topics. The data identified the areas of the *Guidance* document that needed to be revised. It has also aided in the review of current practices, influencing the development of the topic guide for the focus groups at the medication management seminars.

The design of the EDED allows for reports to be generated specific to the origin and types of enquiries (i.e. practice areas, division of register, category of enquiry). There is a category for recording queries of medication management, with more explicit subcategories. Some medication management queries may be linked to other categories, such as scope of practice, and can be entered under that alternate category. The present subcategories in use are listed in the table below.

**Table 2. Medication Management Subcategories of Education Department Enquiries Database**

MDA scheduled medications	Storage
Documentation	Unlicensed medications/unauthorised use
Prescribing/advising	Intravenous therapy
Transcribing of prescriptions/medication charts	Delegation
Professional education	Medication error
Verbal/telephone orders	Compliance aid /monitored dosage system
Single v two nurse administration	Patient education
Protocols	Dispensing
Self administration	Clinical audit tool
Non-nurses role	Complementary/alternative therapies

The queries recorded have some recurring themes:

- Acceptance of verbal and telephone orders specifically in emergency situations
- The policy of administration of medications by two nurses
- Appropriate storage of medicinal products
- The responsibilities of nurses for dispensing medications
- The administration of medications by non-nursing staff in health care settings.

Other queries reflect the changing health care systems and evolving care methods, as new activities emerge that require guidance. These include self-administration of medicinal products by patients/clients; the use of compliance aids and medication dosage systems; and the increasing use of complementary therapies by health care providers and service users alike. The nurses and midwives attending the medication management seminars identified similar issues when participating in the focus groups.

### 8.3. Revised Guidance

The revised *Guidance to Nurses and Midwives on Medication Management* (An Bord Altranais, 2003) introduces the concept of medication management to the professions. This encompasses not only the act of medication administration but also the assessment, planning, implementation and evaluation of nursing and midwifery care associated with medications. The continuing expansion of practice by nurses and midwives has meant that the individual nurse/midwife is responsible and accountable for his/her own scope of practice. The *Scope of Nursing and Midwifery Practice Framework* (An Bord Altranais, 2000e) was used as the guiding structure in revising the document, as it provides a comprehensive examination of the fundamental concepts of competency, accountability, autonomy and delegation. These concepts determine an individual's scope of practice and directly relate to the professions' role and responsibility in managing medications.

The revision emphasises the multidisciplinary collaborative nature of medication management, and encourages the nurse/midwife to seek consultation and collaboration with other health care professionals in meeting the needs of the individual health care user.

In preparing the revision, the Project Team relied on medication guidance documents from international nursing regulatory and professional organisations (Australian Nursing Federation, 1999; College of Nurses of Ontario, 2003; Nursing Board of Tasmania, 1997) and current nursing, midwifery, medical and pharmacy literature regarding medication management, (Naegle, 1999; National Co-ordinating Council for Medication Error Reporting and Prevention, 1998; Pharmaceutical Society of Ireland, 1999).

The revision summarises relevant Irish statutes and legislation and An Bord Altranais guidance documents. There is a glossary of key medication management terms that encompasses the definitions of certain activities of medication management such as dispensing and administration. Explanations for medication error and adverse drug reaction are provided to encourage a standardisation of terms amongst the professions. A listing of organisational resources is provided. *Guidance to Nurses and Midwives on Medication Management* (An Bord Altranais, 2003) is intended to be a useful reference for nurses and midwives to develop, implement and evaluate medication management policies within their organisations and practice areas.

The introduction of new health structures and processes, along with the increased focus on multidisciplinary care and teamwork in association with proposed changes in medicinal products legislation and professional regulation, will direct further revisions of this guidance document. The constant goal of improvements in patient safety and the responsibility of the nurse and midwife in medication management also dictate the need for current information and guidance to be provided to the professions. In the course of this Review, nurses and midwives have been encouraged to share their comments about the guidance document and related medication concerns so that future editions can be further improved.

### Summary

*Guidance to Nurses and Midwives on the Administration of Medical Preparations* (An Bord Altranais, 2000b) was revised as part of this Review. The new document published in 2003, *Guidance to Nurses and Midwives on Medication Management*, was developed in response to the professions' views that previous guidelines were inadequate for their current practices involving medications. The recording of medication queries and related areas through the use of the Education Department Enquiries Database served as a source of information and identified key topic areas to address in the revised document. The *Scope of Nursing and Midwifery Practice Framework* (An Bord Altranais, 2000e) was used as a foundation for the document as its central concepts embrace the professions' responsibilities in managing medications. National and international references were used in devising the guidelines. Content includes a glossary of terms, relevant Irish legislation and a listing of organisational resources.

## CHAPTER 9

# The Needs Assessment Survey

### 9.1. Introduction

A cross-sectional survey was designed to assess whether or not Irish nurses and midwives need to prescribe for their patients. A number of research objectives were identified to answer this question and were addressed using descriptive and non-parametric statistical analysis. A postal survey was the method chosen to collect the data because it is easier to administer to a large sample and met the objectives of the study. The development of the items for the needs assessment survey was based upon the themes that emerged from the nurses' and midwives' participation in the focus group discussions, and from the literature review.

To maximise the response rate, a cover letter introduced the purpose of the needs assessment and general instructions for completion were provided. A guarantee of anonymity was provided by using a unique ID number with a proviso that it could not be traced to the respondent's personal details held at An Bord Altranais. The unique number allowed the Project Team to crosscheck the division from which the respondent had been selected and their current practice area. Those who were not using their nursing/midwifery qualifications in their current position were asked to return the survey uncompleted. A definition of terms on types of prescribing models, nurse led care, and collaboration derived from the literature that examined international experiences of nurses and midwives with prescriptive authority and advanced practice was also included with the survey.

The self-administered 79-item survey was divided into five sections. All sections were applicable to those providing direct patient care, except for section two, which was applicable only to those respondents who were employed as nurses and midwives but were not providing direct patient care. The rationale for including this group as part of the survey was that, while they could not be evaluated on the need for prescribing within their practice (e.g. lecturers, researchers, managers), since they were not working directly with patients, they still had a perspective to share that was considered valuable to this debate. All other sections were applicable only to those providing direct patient care (See Appendices 2 & 3 for full survey).

### 9.2. Piloting of Survey

The survey was piloted using nursing students enrolled in the post graduate course on clinical practice in Trinity College, Dublin and also using specialist nurses attending a national conference at St Vincent's University Hospital. The survey was also reviewed by the education officers of An Bord Altranais and by executives of both An Bord Altranais and the National Council.

### 9.3. Research Objectives

1. To identify which models are needed by nurses and midwives
2. To identify the practice settings in which the prescribing models are needed
3. To ascertain why nurses and midwives need particular prescribing models
4. To identify what resources nurses and midwives would need for implementation of the prescribing models
5. To consider what nurses and midwives perceive to be the benefits of each prescribing model.
6. To outline the reasons why nurses do not want to prescribe independently or collaboratively
7. To identify which medications those who chose the independent/collaborative models might need to prescribe.

### 9.4. Sample

A random sample of 3,000 nurses and midwives was selected from the active Register, maintained by An Bord Altranais<sup>3</sup>. The sample was weighted according to the seven divisions of the register (See Table 3).

<sup>3</sup>There were 81,716 nursing and midwifery qualifications on the active Register as of 16 March 2004. A nurse or midwife may have more than one qualification hence the reason for weighting the sample from each division. The inactive file of the Register was not used for sampling as this file represents nurses and midwives who are no longer actively practising in Ireland and have informed the Board of this.

**Table 3. Sample and Response Rate**

DIVISION	SURVEY SAMPLE	RESPONSES	RESPONSE RATE %
General	1,800	571	32%
Midwives	480	177	37%
Psychiatric	345	82	24%
Sick Children	135	48	36%
Public Health	75	28	37%
Mental Handicap	135	52	39%
Tutors	30	14	47%
Unknown		14	
<b>TOTAL</b>	<b>3,000</b>	<b>986</b>	

## 9.5. Response Rate

Seventeen surveys were returned "not at this address", resulting in a final valid sample of 2,948. Table 3 illustrates that there were 1,052 responses in total, a response rate of 35%. Of these, 66 respondents said they were not using their nursing/midwifery qualification for their present position, giving 986 usable questionnaires. The lowest response rate came from those within the psychiatric division (24%) and the highest came from those within the tutor division (47%). This divisional breakdown is not an accurate indicator of the practice area in which the respondent was working. Simply because the nurse/midwife was selected from a particular division on the Register did not mean that she/he was working in that particular area. A nurse/midwife may be on more than one division (see Table 4).

**Table 4. Crosstabulation of Current Area of Practice by Selected Sample Division**

Current Area of Practice	SELECTED SAMPLE DIVISION								TOTAL
	GENERAL	MENTAL HANDICAP	MIDWIFERY	PSYCHIATRIC	SICK CHILDREN'S	PUBLIC HEALTH	TUTOR	UNKNOWN	
Care of the older person	121	4	30	11	7	0	0	2	175
A&E	15	0	2	0	2	1	0	0	20
N/M education	14	2	9	0	3	0	11	0	39
General Practice	24	0	4	1	0	0	0	0	29
Paediatrics	37	0	3	0	18	0	0	2	60
Oncology/Haematology	20	1	2	1	1	0	0	0	25
Palliative Care	8	0	1	0	0	0	0	0	9
Psychiatry	33	1	1	54	3	0	1	0	93
Intellectual Disability	17	43	3	6	1	0	0	2	72
Medical/Surgical	137	0	27	5	7	0	0	4	180
Critical Care	28	1	8	0	1	0	0	3	41
Midwifery	32	0	37	0	1	2	1	0	73
Public Health	41	0	29	0	2	23	0	0	95
Occupational Health	5	0	3	0	0	0	0	0	8
N/M Administration	9	0	11	1	0	2	1	1	25
Research	0	0	2	0	0	0	0	0	2
Theatre	20	0	4	0	1	0	0	0	25
Other <sup>1</sup>	1	0	0	2	1	0	0	0	4
<b>Total*</b>	<b>562</b>	<b>52</b>	<b>176</b>	<b>81</b>	<b>48</b>	<b>28</b>	<b>14</b>	<b>14</b>	<b>975</b>

\*Missing cases = 11

<sup>1</sup>Other = Community child health development; Health promotion; Medical sales.

Table 4 illustrates the division from which respondents were selected and the practice area in which they said they were working. Whilst it appears that the majority of respondents within each division were working in comparable practice areas, this is not as clear for those selected from the midwifery register, where nearly as many selected from this division were working in a care of the older person setting as were in midwifery.

Four hundred and eighty midwives were selected from the active Register for the sample, and 177 responded from this division. However, only 37 of these said they were working as midwives (21%). A total of 73 respondents overall said they were working as midwives, the majority of whom were selected from within the general division. This sampling problem associated with using the active Register for selection of midwives has been noted elsewhere (Empowerment study, DoHC, 2003a). Where time and resources allow in future studies, the use of stratified clustered sampling of this group directly through the maternity hospitals may be a more appropriate sampling method. Similarly, 48 nurses responded from the sick children division but only 18 (38%) said they working in paediatrics. Again this points to the case for using a different approach for the selection method of nurses representing sick children's nursing.

## 9.6. Survey Findings

The research objectives were addressed by running a series of crosstabulations looking for significant relationships between variables using the Chi square test. Owing to a limited amount of data for answers to the five-point Likert scales, the "neither", "disagree" and "strongly disagree" options, were combined. The first section of the survey questionnaire sought demographic information on the respondents. The results are summarised as follows (See Appendix 4 for full details of demographics).

### 9.6.1 Demographic Profile

#### Gender

Eight hundred and ninety eight respondents were female (94%) and 60 were male (6%), which corresponds approximately with the An Bord Altranais active Register (92% and 8%). Twenty eight did not respond to this question.

#### Age

The highest number of respondents (33%) was in the 40-49 age group, which is a higher proportion than that on the An Bord Altranais active Register (27%). Conversely, a lower number of respondents in the youngest age category responded to the survey (11%) compared to the numbers in this age group on the active Register (17%).

#### First Nursing Qualification

Seventy nine percent of those who responded said that a certificate was their first nursing qualification. Fifteen percent stated that it was a diploma and 5% a degree.

#### Division

The majority of respondents were registered on the general division of the register (86%) and the percentage of respondents on all divisions of the register was higher than the overall national figures. In particular, over four times more of the respondents to the survey were on the public health and tutors divisions compared to the national figures.

#### Decade of Registration

The majority of those on the general, mental handicap and sick children's divisions of the Register registered in the 1990s. The two outliers in this respect were those registered in midwifery and public health, where the majority of those on the midwifery register registered in the 1970s and those on the public health register who only did so since the year 2000. The majority of those who were registered on the psychiatric and nurse tutor registers did so in the 1980s.

As explained previously, the division on the register is not exclusive, in that a person may be in more than one division, e.g. general and midwifery. Hence, in order to get a clearer picture of how many divisions each respondent was on, the variable *division of the Register* was recoded into number of divisions per respondent. The findings show that the *number of divisions per respondent* was greater than the national figures of nurse/midwives on the An Bord Altranais active Register. Similar to those on the active Register, the largest number (46%) of those who responded to the survey were on one register only. The differences are more evident when one considers the numbers on more than one register, where twice as many respondents to the survey were on three or more registers as those on the active Register.

### Further Post-registration Academic Qualifications

When asked about post-registration qualifications, the certificate was highlighted as the academic award achieved by the largest group of respondents (n=361). Because a nurse/midwife could have achieved more than one academic award, this variable was recoded to examine which award was the highest achieved by individual respondents. The results show that the certificate was the highest post registration qualification achieved by the largest number of respondents (22%), notwithstanding that the greatest number of respondents said they had not attained any post registration awards (26%). This was followed by the higher diploma/post-graduate diploma (17%) and a degree which was achieved by 16% of respondents.

### Place of Work

Most respondents worked in one of three settings: hospital (57%), community (21%) and nursing homes (8%). The other settings were hospital and community (5%), residential home (6%), and other<sup>4</sup> (3%). Of those who said they worked in a hospital, the majority were in hospitals with less than 299 beds (58%).

### Employer

The Health Boards were the main employers for the majority of respondents (72%), followed by the private sector (14%), voluntary hospitals (7%) and others<sup>5</sup> (7%).

### Current Practice Area

The two largest groupings of respondents were working either in a care of the older person setting or on a medical/surgical ward (18% in each area). This was followed by psychiatry and public health (both 10%).

### Current Position Held

The majority of respondents (55%) were currently employed as staff nurses or staff midwives. When respondents were asked if these positions were in nursing or midwifery, 90% said nursing and 10% said midwifery. Over half of all respondents were in their current position between one and five years (54%) and nearly three-quarters of all respondents were in their position for less than ten years.

### Working in a Nurse-led Unit

The majority of respondents (54%) said they did not work in a nurse led unit. Sixty one respondents did not reply to this question.

### Geographical area and location

The largest number of respondents worked in the East of the country (34%), followed by the South (19%), the West (15%) the South East (10%), North East (10%) and North West (6%). Two percent stated that they worked in more than one area and 4% did not state an area. Most (58%) worked in an urban setting, 20% worked in a rural setting and 23% stated that they worked in both.

## 9.6.2 Survey Results: Direct Carers

This section gives the results of the survey from the 709 respondents who stated that they provided direct patient care and are presented under the headings of the seven research objectives of the Needs Assessment Survey, which are listed at the beginning of this chapter.

### Objective 1. To identify which models are needed by nurses and midwives

Respondents were asked which of three models of prescribing, definitions of which were provided, was most needed for their practice (no model was also included for those who did not identify a need to prescribe). The results show that the largest number favoured a collaborative approach to prescribing for their practice.

**Table 5. Choice of Prescribing Model Needed for Practice**

WHICH MODEL DO YOU NEED?		
	FREQUENCY	VALID %
Independent nurse/midwife Prescribing	101	14.2
Collaborative nurse/midwife Prescribing	341	48.1
Protocol models	217	30.6
None	50	7.1
Total	709	100.0

<sup>4</sup>Other includes: Private industry, higher education institute, Irish Blood Transfusion Service, prison services, and public sector organisations.

<sup>5</sup>Other includes: Voluntary services, higher education institute, public sector agency, self-employed.

In order to identify what factors might have influenced this choice of model by respondents, the Chi square test for independence was used to explore the relationship between choice of prescribing model and a number of demographic variables. The respondent's highest post registration academic qualification was found to have an influence over the choice of model needed (See table 6). Those who had a master's degree were more likely to choose the independent model of prescribing than the others. Equally, those who had no additional post registration qualifications were more likely not to need any of the models for their practice (Chi square 42.408, df 15,  $p < 0.0001$ ).

**Table 6. Crosstabulation of Choice of Prescribing Model by Highest Post Registration Academic Qualification**

HIGHEST POST REGISTRATION ACADEMIC QUALIFICATIONS						
Post Reg Qualification	Count/% highest Model	Independent N/M Prescribing	Collaborative N/M Prescribing	Protocol Models	None	Total
No Additional Qualifications	Count	19	78	65	23	185
	% of Model	10.3%	42.2%	35.1%	12.4%	100.0%
Certificate	Count	18	72	55	12	157
	% of Model	11.5%	45.9%	35.0%	7.6%	100.0%
Diploma	Count	16	47	22	7	92
	% of Model	17.4%	51.1%	23.9%	7.6%	100.0%
Degree	Count	18	62	35	2	117
	% of Model	15.4%	53.0%	29.9%	1.7%	100.0%
Higher Diploma/ Post Grad Diploma	Count	21	67	31	2	121
	% of Model	17.4%	55.4%	25.6%	1.7%	100.0%
Masters	Count	9	8	4	2	23
	% of Model	39.1%	34.8%	17.4%	8.7%	100.0%
Total	Count	101	334	212	48	695
	% of Model	14.5%	48.1%	30.5%	6.9%	100.0%

\*Missing Values = 30

The respondent's *current position* was also found to be a significant determinant of the model chosen. To test this relationship, the 11 categories of current position were collapsed into five categories (S/N or S/M, CNMs, CNS, public health nurse and other) and choice of model was collapsed into four (independent, collaborative, protocols and no model). Those respondents who said they were employed as clinical nurse specialists or public health nurses showed strongest support for the independent model of prescribing. This relationship between choice of model and current position was significant (Chi square 28.428, df 8,  $p < 0.0001$ ). The respondent's *geographical area* was also found to be a determining factor in the model needed for practice. Specifically, those working in the west of Ireland showed stronger support for the independent model compared to those from other areas (Chi square 19.403, df 10,  $p < 0.05$ ). *Working in a collaborative environment* was also found to be associated with the model chosen by respondents. Those who said they needed the protocol models were less likely to be working in a collaborative work environment compared to those who opted for the independent or collaborative models (Chi square 21.692, df 4,  $p < 0.001$ ).

Those who selected the independent or collaborative models were then asked about the criteria that might be necessary for nurses and midwives to prescribe using these models. On education, 39% of respondents said a preparatory module for nurse/midwife prescribing would be necessary 19% said a higher diploma, and 18% a certificate. Only 9% said preparation should be at master's degree level. When asked about the *number of years' experience that would be required since first qualification*, most respondents (68%) said five years or more. In response to a separate question, 46% said that five or more years' experience would be required in the *specific area of practice* where the nurse/midwife would prescribe.

## **Objective 2. To identify the practice settings in which the prescribing models are needed**

Whilst the collaborative model of prescribing was shown previously to be the most favoured model for the largest number of respondents, and the independent model the least favoured, the table below reveals the practice areas in which the various models are required. The findings showed that those expressing most support



for the independent model of prescribing work in midwifery and public health. Likewise, those working in a medical/surgical practice setting showed strongest support for the protocol model. This relationship between choice of prescribing model and practice area was significant (Chi square 75.821, df 27,  $p < 0.0001$ ).

**Table 7. Crosstabulation of Choice of Prescribing Model by Current Practice Area**

Current Practice Area	Count/% of Which Model Do You Need?	WHICH MODEL DO YOU NEED?				Total
		Independent N/M Prescribing	Collaborative N/M Prescribing	Protocol Models	None	
Care of the older person	Count	19	61	42	5	127
	% of Model	19.2%	17.9%	19.6%	10.0%	18.0%
General Practice	Count	5	10	5	3	23
	% of Model	5.1%	2.9%	2.3%	6.0%	3.3%
Paediatrics	Count	8	24	17	4	53
	% of Model	8.1%	7.0%	7.9%	8.0%	7.5%
Psychiatry	Count	4	32	20	12	68
	% of Model	4.0%	9.4%	9.3%	24.0%	9.7%
Intellectual Disability	Count	4	24	20	6	54
	% of Model	4.0%	7.0%	9.3%	12.0%	7.7%
Medical/Surgical	Count	8	64	56	13	141
	% of Model	8.1%	18.8%	26.2%	26.0%	20.0%
Critical Care	Count	1	24	8	1	34
	% of Model	1.0%	7.0%	3.7%	2.0%	4.8%
Midwifery	Count	16	37	7	0	60
	% of Model	16.2%	10.9%	3.3%	.0%	8.5%
Public Health	Count	18	31	19	4	72
	% of Model	18.2%	9.1%	8.9%	8.0%	10.2%
Other	Count	16	34	20	2	72
	% of Model	16.2%	10.0%	9.3%	4.0%	10.2%
Total	Count	99	341	214	50	704
	% of Model	100.0%	100.0%	100.0%	100.0%	100.0%

### Objective 3. To ascertain why nurses and midwives need particular prescribing models

Respondents were asked if they would *strongly agree*, *agree*, *neither agree nor disagree*, *disagree* or *strongly disagree* with five statements outlining why they might want to prescribe. The results, which are given in Table 8. below, have been reduced to three categories, *strongly agree/agree*, *neither* and *strongly disagree/disagree* in order to give sufficient numbers for statistical analysis.

The responses to this question from those who chose any of the prescribing models show that the majority of respondents (77%) were in agreement with all statements except with the statement “*There is a shortage of medical practitioners working within my practice,*” where respondents showed sizeable divergence of opinion.

**Table 8. Reasons for Selection of the Model**

Why Have You Selected That Model?	(Strongly) Agree	Neither	(Strongly) Disagree	Total	N
It would make better use of my expertise	95%	4%	1%	100%	604
It would legitimise my current practice	68%	20%	12%	100%	591
Personnel/human resources would be used more effectively	85%	12%	3%	100%	600
There is a shortage of medical practitioners working within my practice	45%	25%	30%	100%	590
I would be able to provide more holistic holistic care for my patients	93%	5%	2%	100%	613
Overall	77%	13%	10%	100%	2,998

To illustrate how these responses differ according to the prescribing model chosen, the Chi square test was conducted to examine the relationship between choice of model and reasons for that choice. Statistically significant differences were noted between the models, specifically showing that those choosing the independent model were more likely to be those who also showed strong agreement with the statements, *"It would make better use of my expertise"* (Chi square 33.846, df 4,  $p < 0.0001$ ), *"It would legitimise my current practice"* (Chi square 12.316, df 4,  $p < 0.05$ ) and *"I would be able to provide more holistic care for my patients/clients"* (Chi square 18.019, df 4,  $p < 0.001$ ) than those choosing the collaborative model, who in turn were more likely to strongly agree with these statements than those choosing the protocol model.

#### Objective 4. To identify what resources nurses and midwives would need for implementation of the prescribing models.

To identify what resources nurses and midwives would need for implementation of their chosen prescribing models, respondents were asked to rate their agreement with a number of supports outlined in five statements (see table 9 below). Similar collapsing of categories was conducted as explained in objective 3 above.

**Table 9. Supports Needed for the Model**

What supports do you think would be needed within your practice for the model?	(Strongly) Agree	Neither	(Strongly) Disagree	Total	N
Collaboration between nurses/midwives and doctors within my practice area would be necessary for the model that I have chosen	95%	2%	3%	100%	615
Collaboration between nurses/midwives and pharmacists in my practice area would be necessary for the model that I have chosen	83%	10%	7%	100%	605
The support of the medical profession would be important for implementation of the model that I have chosen	96%	2%	1%	100%	612
The support of the pharmacy profession would be important for implementation of the model that I have chosen	84%	11%	5%	100%	594
The support of my nursing/midwifery management would be important for implementation of the model I have chosen	95%	4%	1%	100%	607
Overall	91%	6%	3%	100%	3,033

An analysis of responses showed that those respondents who chose the collaborative model selected the statement *"Collaboration between nurse/midwives and doctors in my practice would be necessary"* more than those who chose the other models. Those who chose the independent model showed least support for this statement. The difference between model choice and this statement was statistically significant (Chi square 32.920, df 4,  $p < 0.0001$ ). The other statements on resources required for prescribing were not found to have statistically significant relationships with the type of model chosen by respondents.

### Objective 5. To consider what nurses and midwives perceive to be the benefits of each prescribing model.

Respondents were asked to rate their level of agreement with 15 statements about the benefits of the prescribing models. The results are in Table 10 below.

**Table 10. Main Benefits of the Model**

What are the main benefits of the model?	(Strongly) Agree	Neither	(Strongly) Disagree	Total	N
It would provide legal clarification of my current practice	67%	21%	13%	100%	605
It would result in safer patient care	75%	20%	5%	100%	609
The professional development of nursing nursing and midwifery would be enhanced	95%	4%	1%	100%	613
My role would be more autonomous	87%	10%	3%	100%	607
Nursing/Midwifery would make its own unique contribution to prescribing for patients/clients	86%	10%	3%	100%	604
It would increase patients'/clients' accessibility to care	84%	11%	5%	100%	609
More timely treatment could be provided to patients/clients	93%	5%	1%	100%	609
Patients and clients would receive more information on their medications	81%	14%	5%	100%	609
Patient/client care would be more cost-effective	66%	29%	4%	100%	605
Patient's/clients compliance with their medications would be improved	63%	29%	7%	100%	606
Stress levels for nurses would be reduced	58%	30%	13%	100%	608
It would improve the quality of patient/client care	90%	8%	2%	100%	614
It would help relieve future problems with the reduction in doctors working hours	64%	26%	11%	100%	611
Interdisciplinary teamwork would be improved	83%	13%	4%	100%	609
It would enable the provision of more holistic care for patients/clients	92%	6%	2%	100%	612
Overall	79%	16%	5%	100%	9,130

There were differences found between the model chosen and the benefits associated with that model. Those who chose the independent model were more likely to be those who also strongly agreed with statements about legal clarification, professional development of nursing, autonomy of role, and how the nurse/midwife would make a unique contribution to prescribing. The benefits of nurse prescribing for patients/clients, which included improved accessibility, timely provision of care, compliance and better information provision, were also agreed with more strongly by those who chose the independent model. Value for money was also seen as being enhanced, with stronger agreement from those who chose the independent model. There were statistically significant differences found between choice of model and the following statements:

For the statement, *"It would provide legal clarification of my current practice"*, there was 66% agreement from all respondents, but stronger support was more likely to be shown by those who chose the independent model (Chi square 10.828, df 4,  $p < 0.05$ ). Whilst there was practically unanimous agreement (93%) with the statement *"The professional development of nursing and midwifery would be enhanced"*, those who chose the protocol model tended to support it least (Chi square 17.180, df 4,  $p < 0.01$ ). There was strong support from the majority of respondents (87%) with the statement *"My role would be more autonomous"*, but those showing strongest support were more likely to be those who chose the independent model. Those who chose the protocol model were more likely to be those who disagreed with this statement (Chi square 33.602, df 4,  $p < 0.0001$ ). Similarly, on the statement *"Nursing/Midwifery would make its own unique contribution to prescribing for patients/clients,"* whilst the majority of respondents (87%) showed agreement, those most seen to disagree were those who chose the protocol model (Chi square 24.557, df 4,  $p < 0.0001$ ). The same trend occurred in regard to the statement *"It would increase patients/clients accessibility to care."* (Chi square 19.649, df 4,  $p < 0.001$ ), with least support shown by those who chose the protocol models.

Only a small number of respondents showed a lack of support for the statement, *"More timely treatment could be provided to patients/clients,"* and they were also more likely to have chosen the protocol model (Chi square 14.652, df 4,  $p < 0.01$ ). Again, those who chose the protocol model showed less support for the statement, *"Patients and clients would receive more information on their medications,"* compared to those who chose the independent or collaborative models (Chi square 14.814, df 4,  $p < 0.01$ ). Those who chose the independent model showed stronger support for the statement, *"Patient/client care would be more cost-effective"* (Chi square 15.112, df 4,  $p < 0.01$ ). There was strongest support for the statement *"Patient's/client's compliance with their medications would be improved"* from those who chose the independent model and least support from those who chose the protocol model (Chi Square 14.508, df 4,  $p < 0.01$ ).

#### **Objective 6. To outline the reasons why nurses and midwives do not want to prescribe independently or collaboratively**

When asked about which model of prescribing they most needed for their practice, 50 respondents (7%) stated that they did not want any model at all. The largest group of these, 12, worked in a psychiatric care setting.

Those respondents who chose the protocol model and those who did not want to prescribe at all were asked to rate their level of agreement with a number of statements outlining possible reasons for not wanting to prescribe ( $n=267$ ). The main reasons given by the protocol group for not choosing either the independent/collaborative models were as follows (categories were collapsed as in objective 3 above):

1. Protocols would be adequate for my practice (79%)
2. I am fearful of increased litigation (61%)
3. It would result in an increased workload (58%)
4. I am satisfied with my existing caring role (57%)
5. I do not want to lose touch with "real nursing" (48%)

Those who said they did not need any of the models gave their main reasons as:

1. I am satisfied with my existing caring role (88%)
2. I do not want to lose touch with "real nursing" (75%)
3. I would be fearful of interdisciplinary conflict (74%)
4. I am fearful of increased litigation (74%)
5. It would result in an increased workload (71%)

The full results are in Table 11 overleaf.

**Table 11. Reasons for Not Needing to Prescribe**

Reasons for not needing to prescribe	Protocol Model		No Model	
	(Strongly) Agree	N	(Strongly) Agree	N
Protocols would be adequate for my practice	79%	186	67%	30
I am satisfied with my existing caring role	57%	187	88%	34
I do not want to engage in further education	16%	190	15%	33
We have enough doctors in my practice to prescribe already	39%	193	70%	37
I do not want to lose touch with "real nursing"	48%	189	75%	36
Nurse/midwife prescribing is only being introduced for the convenience of doctors	25%	189	39%	36
Nurse/midwife prescribing is not being introduced for the benefit of patients/clients	19%	189	35%	34
Nurse/midwife prescribing is not being introduced for the professional development of nursing & midwifery	18%	187	45%	35
I would be fearful of interdisciplinary conflict	35%	186	74%	34
It would result in an increased workload	58%	190	71%	38
I have poor support from pharmacy in my practice	13%	189	21%	34
I am fearful of increased accountability	41%	189	66%	38
I would have problems getting release time for further education	29%	189	58%	36
It would be an inferior alternative to doctors prescribing	16%	189	42%	34
I am fearful of increased litigation	61%	187	74%	39
I have poor support from the medical profession within my practice	22%	187	40%	35
Patients/clients would be slow to accept this change in practice	28%	188	35%	34

To see if these differences between the models and the responses to the statements were significant, the Chi square test was conducted. Statistically significant differences were found for the following:

Those who did not choose any of the models were more likely to be those who were more in disagreement with the statement, "*Protocols would be adequate for my practice*," compared to those in the protocol group (Chi square 19.523, df 4,  $p < 0.001$ ). They also showed very strong support for the statements, "*I am satisfied with my existing caring role*" (Chi square 31.588, df 4,  $p < 0.0001$ ) and "*We have enough doctors in my practice to prescribe already*" (Chi square 18.354, df 4,  $p < 0.001$ ). Additionally those who did not choose any model showed stronger support for the statement, "*I do not want to lose touch with 'real nursing'*" (Chi square 21.487, df 4,  $p < 0.0001$ ).

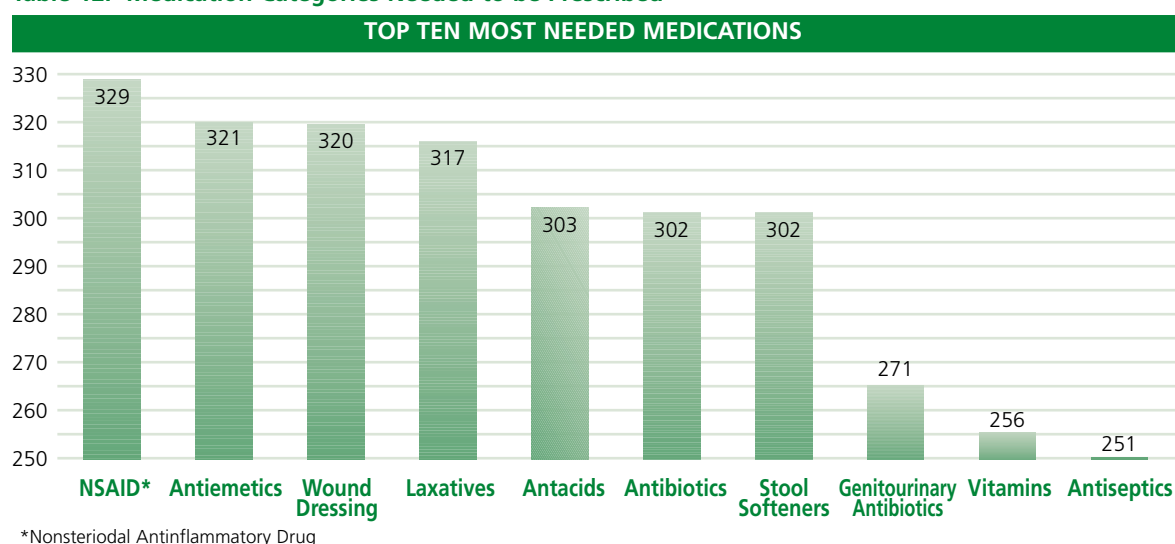
For the statement, "*Nurse/midwife prescribing is not being introduced for the professional development of nursing & midwifery*", whilst those who chose no model were more undecided on this matter, greater numbers in this group supported this statement than did the protocol group (Chi square 11.170, df 4,  $p < 0.05$ ). There was also indecision from those who chose no model regarding the statement, "*Nurse/midwife prescribing is not being introduced for the benefit of patients/clients*". However of those who were decided, those who chose no model were more likely to agree with this statement than those who had chosen the protocol model (Chi square 20.438, df 4,  $p < 0.0001$ ).

When asked about the statement, "*I would be fearful of interdisciplinary conflict*," those who chose no model showed greater agreement with it, compared to those in the protocol group (Chi square 22.536, df 4,  $p < 0.0001$ ). Respondents in the no model group showed more agreement with the statement, "*I am fearful of increased accountability*," compared to those in the protocol group, where most disagreed (Chi square 10.451, df 4,  $p < 0.05$ ). On the statement, "*I would have problems getting release time for further education*", those respondents who chose no model were more in agreement with it than those who chose the protocol model (Chi square 12.389, df 4,  $p < 0.05$ ). Again, those who chose no model supported the statement "*It would be an inferior alternative to doctors prescribing*," in greater numbers than those who chose the protocol model (Chi square 15.025, df 4,  $p < 0.01$ ).

### Objective 7. What medications might those who chose the independent or collaborative model of prescribing need to prescribe within their practice?

Respondents were provided with 14 health conditions and 98 categories of medications that might be used to treat them. Those respondents who said they needed the independent or collaborative models (n=443) for their practice were asked to indicate which of categories of medications they would need to prescribe. Table 12. illustrates the most needed categories chosen by the majority of respondents. The top ten medication categories chosen were, in the main, over-the-counter medications, but certain practice areas also showed a need for additional prescription medications and some controlled drugs.

**Table 12. Medication Categories Needed to be Prescribed**



The medications chosen were then collapsed according to the practice settings where the respondent said they worked. The results were that respondents chose medications specific to their scope of practice (See Appendix 6 for barcharts depicting the five most needed categories of medications to be prescribed within each practice setting).

### 9.6.3 Survey Results: Non-direct Care Providers

Two hundred and sixty one respondents, 26% of the total sample, stated that they did not provide nursing/midwifery care directly to their patients. This group consisted in the main of those working in nurse/midwife administration, education and higher management positions. The majority (89%) represented nursing, with the remaining 11% representing midwifery or both. It was important to secure their input, particularly from an education and experience viewpoint and, as stated earlier, a section of the survey questionnaire was included for these respondents only.

Because these respondents were not working directly with patients, it was not appropriate to ask them which model of prescribing they needed for their practice. Instead they were asked whether or not, in their opinion, nurses and midwives should be authorised to prescribe using the independent or collaborative models. They were also asked about what they considered to be the necessary criteria to allow a nurse or midwife to take on this role.

### Should Nurses/Midwives be Authorised to Independently Prescribe?

The majority of non-direct care providers were in favour of both models of prescribing but more were in favour of the collaborative model than the independent model.

**Table 13. Should Nurses/Midwives be Authorised to Prescribe?**

	N	Independent Model	N	Collaborative Model
Yes	146	58%	169	68%
No	104	42%	79	32%
Total	250		248	
Missing	11		13	

### Non-direct Carers Response to Independent Model

In table 13. the majority of non-direct care providers favoured nurse/midwife independent prescribing. However, a sizeable number of respondents disagreed (n=104), and so the variable *choice of model* was further examined to identify who these respondents were. In a crosstabulation and Chi square test of the relationship between *choice of model* and *profession they represent*, midwifery representatives were more likely than nurses to show support for the independent model. This relationship was statistically significant (Chi square 4.808, df 1,  $p<0.05$ ).

The relationship between *choice of model* and *current position* was also examined and was found to be statistically significant (Chi square 33.289, df 5,  $p<0.0001$ ). Specifically, there was strong support in favour of independent prescribing from those working as higher managers (Directors of Nursing/Assistant Directors of Nursing) and least support from those working as staff nurses or staff midwives.

A statistically significant relationship was found between being in favour of independent prescribing and the *number of post registration academic qualifications* achieved by the respondent. The trend showed that the more qualifications the respondent had achieved, the more in favour they were of this model (Chi square 22.040, df 4,  $p<0.0001$ ). This was also the case for *choice of model* and *highest post registration academic qualifications* achieved. Those with no additional qualifications were least likely to support independent prescribing by nurses/midwives, whilst those with a master's degree strongly supported it (Chi square 24.554, df 5,  $p<0.0001$ ).

There was also a significant relationship between being in favour of the independent model and the *number of divisions* of the register respondents were on. The more divisions they were registered on the more likely they were to support the independent prescribing model (Chi square 9.934, df 2,  $p<0.01$ ).

When the variable *choice of model* was examined for its relationship with *work setting*, it emerged that the majority of respondents from all settings were in favour of independent prescribing except for those working in the nursing home sector. This group showed strong opposition to this model (70% against) and the relationship was significant (Chi square 16.448, df 6,  $p<0.05$ ).

Those who favoured the independent prescribing model were asked about three criteria necessary to authorise nurses/midwives to independently prescribe: *education*, *clinical experience* and *years in specific area of practice*. On the level of education that would be necessary for a nurse/midwife to independently prescribe, the results were as follows:

**Table 14. Education Required for Nurse/Midwife Independent Prescribing**

Education Required	Frequency	Valid %
Master's Degree	28	19.6
Post Grad Diploma/Higher Diploma	45	31.5
Certificate	13	9.1
Preparatory module for nurse/midwife prescribing	45	31.5
Pre-registration education only	4	2.8
Don't know	6	4.2
Other	2	1.4
Total	143	100.0
Missing	3	

Thirty-one percent of respondents who were in favour of independent prescribing said that, to independently prescribe, the nurse/midwife would need to be educated to a postgraduate or higher diploma level.

When asked how much clinical experience would be necessary following a nurse's/midwife's first qualification before she/he could independently prescribe, the majority of respondents said five or more years.

Regarding *experience that would be necessary in the specific area of practice where the nurse/midwife would independently prescribe*, the majority of respondents (59%) agreed that five or more years post registration would be necessary.

### Non-direct Carers Response to a Collaborative Model

In table 13 above, it was shown that more respondents were in favour of the collaborative model than the independent model of nurse/midwife prescribing (68% v 58%).



The relationship between *choice of model* and *current position* was tested and it was found that the majority of respondents from all positions were in favour of the collaborative model, but those working as staff nurses/midwives gave it the least support. This relationship between the *choice of model of prescribing* and *current position* was significant (Chi square 18.940, df 5,  $p < 0.05$ ).

The *number of post registration academic qualifications* held by the respondent was found to be associated with choosing the collaborative model of prescribing. In particular, the majority of respondents in all groups showed support for the collaborative model except for those who held no additional qualifications who were strongly against this model. This finding was significant (Chi square 18.500, df 4,  $p < 0.001$ ). Similarly, the level of the additional qualification achieved by the respondent was found to be a determinant of the choice of model. Whilst the majority of respondents who had achieved any of post registration academic qualifications were in favour of the collaborative model, those who had not achieved any (55%) were least likely to support the collaborative model. This relationship between choosing the collaborative model and post registration academic qualifications was highly significant (Chi square 22.408, df 5,  $p < 0.0001$ ).

There was an association between the respondent's *number of divisions* and *choice of model*. The more divisions respondents were on, the more in favour they were of the collaborative model. Those who were only on one division showed less support for this model than those who were on more than one. This relationship was statistically significant (Chi square 10.303, df 2,  $p < 0.05$ ).

A statistically significant relationship was found also between respondent's *work setting* and *choice of model*. To conduct the Chi square test, the work setting variable was re-categorised from eight to five categories. All work settings favoured the collaborative model except for those working in the nursing home setting, who were least likely to support it (Chi square 11.083, df 4,  $p < 0.05$ ).

Those favouring the collaborative model were also asked about the three criteria – *education*, *post-registration clinical experience* and *experience in their specific area of practice* -- necessary to authorise nurses/midwives to prescribe. On *education*, the majority of respondents chose the preparatory module on nurse/midwife prescribing as the necessary education for nurse/midwives to collaboratively prescribe.

**Table 15. Education Required for Nurse/Midwife Collaborative Prescribing**

Education Required	Frequency	Valid %
Master's Degree	24	14.5
Post Grad Diploma/Higher Diploma	49	29.5
Certificate	23	13.9
Preparatory module for nurse/midwife prescribing	57	34.3
Don't know	11	6.6
Other	2	1.2
Total	166	100.0
Missing	3	

On post-registration clinical experience, the majority (71%) said five years or more would be necessary for a nurse/midwife to prescribe collaboratively. Regarding experience in their specific area of practice, a majority (54%) said five years or more would be necessary.

## Summary

The needs assessment survey was conducted to determine whether nurses and midwives required prescribing medications as part of their delivery of care. Seven objectives directed the development of the 79-item survey which included a definition of terms for prescribing practices, nurse-led/midwifery-led care and collaboration. The survey was distributed to 3,000 nurses and midwives with 1,052 responses received. Findings were reported in relation to each objective and according to whether the respondent was a direct care provider or not. The collaborative prescribing model was most favoured by the largest number of direct care respondents (48%) followed by the protocol model (31%) and then the independent model (14%). Current position, geographical location and working in a collaborative environment were influencing factors. Professionals working in midwifery and public health gave most support for the independent v those in medical/surgical practice setting who most favoured the protocol model for prescribing. Direct care providers were questioned about the types of medications that they needed to prescribe, and they chose the medication categories that were most aligned with their own scope of practice. The survey section specific to non direct care providers (26% of the total sample) showed that they thought nurses and midwives should be authorised to prescribe using the independent and collaborative models, with more in favour of the collaborative model.



## CHAPTER 10

# Exploration of Need Survey

### 10.1. Introduction

The experiences of other countries in introducing prescriptive authority for nurses and midwives have demonstrated the importance of gaining the views of patients/clients and service providers views (DHSS, 1986; Luker et al, 1997; New Zealand MOH, 1997). This prompted the Exploration of Need Survey with the key stakeholders in the Irish health care system. Its aim was to establish whether or not there is a perceived need among stakeholders for the introduction of prescriptive authority for nurses and midwives and the possible effects of its implementation. It was deemed essential that the views of the health care consumer and other health care professionals, i.e. medical practitioners and pharmacists, were obtained.

The nursing and midwifery professions have identified their need for a greater role in the management of medications in providing care for patients and clients, extending their responsibilities to prescribe medications. The findings of the focus group discussions and the needs assessment survey conducted as part of this Review have provided this information and strengthened the case for an expanded scope of practice to include prescriptive authority for nurses and midwives. The Exploration of Need Survey was conducted with service users and providers to complement the information previously received from nurses and midwives in the Review.

The views of stakeholders were sought on a number of prescribing issues. They were:

- The need for the independent/autonomous and collaborative models of prescribing practices
- The perceived benefits (if any) of prescriptive authority for nurses/midwives
- The assurance of quality and safety to patients and clients.

Asking key stakeholder organisations their opinions regarding the need for nurse and midwife prescribing through a questionnaire allowed for greater numbers of stakeholders to be approached than would be possible through holding discussion groups or one-to-one meetings.

### 10.2. Questionnaire Structure

A cover letter was provided giving a brief overview of the project followed by a description of the aims of the questionnaire as outlined above. The models of prescribing - independent and collaborative - that are utilised by nurses and midwives elsewhere were presented in an accompanying document to familiarise the reader with international practices.

Six case scenarios involving nurses and midwives delivering care in community and hospital settings were depicted as current practice situations in the Irish health care system. These were provided with the objective of illustrating the perceived constraints of nurses and midwives at present in giving care to patients and clients. Each scenario was reviewed for accuracy and validity of the descriptive information by a clinical practitioner specialising in that health care setting. The scenarios involved:

- Accident and emergency department
- Diabetes clinic
- Palliative care
- General practice
- Maternity care
- Community mental health.

The questionnaire used open-ended questions in order to gather richer descriptive information than would be obtained from a quantitative approach. Maxwell's (1984) model with its six dimensions of quality<sup>6</sup> was used as the framework for creating the questions.

### Survey Questions

1. Do you support the introduction of nurse prescribing as described in the models above?
2. In your opinion, how would prescribing by nurses/midwives promote the efficiency of health care delivery?
3. In your opinion, do you think prescribing by nurses/midwives would be acceptable to patients/clients?
4. From your own perspective what are the implications of introducing prescribing by nurses and midwives?
5. What aspects of patient/client care could be affected by nurses/midwives authorised to prescribe medications?
6. Which health service settings do you think would benefit from nurse prescribing?
7. Are there any health service settings for which you would not support the introduction of nurse prescribing?
8. Do you have any further comments on this expansion of practice to allow nurses/midwives to prescribe?

## 10.3. Survey Participants

The survey was posted out the first week of January 2005 to 58 organisations addressed to an executive staff member, chairperson or department chair, seeking a corporate response. (See appendix 6 for full listing). It was also emailed to each organisation and was made available on the websites of An Bord Altranais and the National Council. Organisations represented on the Steering Committee (exclusive of An Bord Altranais and National Council members) were also invited to share their comments as a broad base of responses was being sought. Nursing and midwifery groups were not specifically targeted as the focus groups and needs assessment survey had been conducted to ascertain the professions' views at an earlier stage in the Review.

Organisations representing patients/clients, medical practitioners, and pharmacists constituted the majority of stakeholders that responded. They were classed into three divisions:

- Patient groups
- Professional representative bodies
- Statutory bodies and governmental health agencies.

Twenty organisations replied (see box below for respondent listing).

Patient Organisations & Voluntary Agencies	Professional Representative Bodies	Statutory Bodies & Governmental Health Agencies
Age Action Ireland (AAI)	Hospital Pharmacists Association of Ireland (HPAI)	The Drug Treatment Centre Board (DTCB)
Brainwave – The Irish Epilepsy Association	Irish Nurses Organisation (INO)	Health Services Executive – Southern Area (HSE)
Diabetes Federation of Ireland (DFI) <sup>7</sup>	Irish Association for Emergency Medicine (IAEM)	Irish Blood Transfusion Service (IBTS)
Irish Advocacy Network (IAN)	The Irish Society for Immediate Care (ISIC)	Nursing and Midwifery Planning and Development Units (NMPDU)
Irish Society for Quality and Safety in Healthcare (ISQSH)	Irish Society of Medical Oncology (ISMO)	Pharmaceutical Society of Ireland (PSI)
National Federation of Voluntary Bodies (NFVB)	Psychiatric Nurses Association (PNA)	Pre-Hospital Emergency Care Council (PHECC)
South Tipperary Service Users Representative Group, SEHB (STSURG)		The Women's Health Council (WHC)

Comhairle na nOspidéal did not complete the questionnaire as its statutory functions excluded it from replying. The National Children's Advisory Council was in the process of reappointing its Board and was, therefore unable to respond. AAI and ISMC did not complete the questionnaire but provided a general summary of their position.

<sup>6</sup>Six dimensions are effectiveness, efficiency, equity, accessibility, acceptability and relevance to need. See Chapter 4 for fuller descriptions of the model.

<sup>7</sup>A member of this organisation submitted a personal response to the survey, not an organisational response.

A thematic analysis was conducted with the submissions that answered the survey's eight questions. Some organisations stated that their responses were limited to their speciality area (Brainwave, ISIC, PHECC, ISMO). Others were more expansive in their comments as they represented broader constituencies. A number of responses made reference to the Review's pilot study (*An Evaluation of the Effectiveness of Nurses and Midwives Collaboratively Prescribing Using Medication Protocols*). Others mentioned the research literature on nurse/midwife prescribing.

## 10.4. Survey Findings

The resulting themes derived from the eight questions posed were:

- Support for the prescribing models
- Benefits to service users
- Benefits to the nurse/midwife
- Practice settings where prescribing should be introduced
- Necessary elements for the introduction of nurse/midwife prescribing
- Promoting the efficiency of health care delivery
- Acceptance by patients/clients.

### 10.4.1 Support for the Prescribing Models

Seventeen of the 20 organisations which responded, supported the introduction of prescribing by nurses and midwives, as described in the models presented. Many stated a preference for the collaborative model of prescribing over the independent model in their own specific areas (PNA, Brainwave, NFVB, ISMC, AAI) while four (NMPDU, HSE, WHC, INO) believed that both models could be introduced to meet the needs of the health care consumer. Some organisations gave reasons for their preferences. For example, Brainwave stated that the neurologist and specialist nurse working together to create standards and protocols through collaborative prescribing would enable the specialist nurse to have a defined scope of practice. Another patient organisation (IAN) said that there were plusses and minuses for both models. However, they were interested in seeing a model developed which allowed for greater patient autonomy.

#### Alternative and Additional Considerations

A number of organisations presented alternatives to the two models described. PHECC and ISIC made a case for the Collaborative Practice Model, which is not exclusive to prescribing medication but encompasses broader health care management practices of nurses in the pre-hospital emergency care setting in other locations (i.e. Queensland, Australia). ISIC also mentioned current PHECC developments for a national registry of pre-hospital care providers as a possible model for expanding the nurses' role in the pre-hospital setting.

HPAI believed that agreed standing orders were suitable for the medication treatment planning for the case scenarios presented, with a limited introduction of drugs for nurses and midwives to prescribe, which would be agreed at a national level by professional regulatory bodies and patient groups. AAI said that the adjustment of the dosage of medication (with the consent of the doctor being obtained) was an appropriate expansion of practice, and did not support an independent prescribing role for the professions. Another patient organisation, NFVB, made the case for over-the-counter medication, and stated that there should be an established limit for the types of OTCs prescribed.

The extension of prescriptive authority to other professions outside of nursing and midwifery was mentioned by two organisations (PSI, ISIC), recognising that there would be many issues to consider with this expansion of practice. Some organisations mentioned the similarity of the collaborative model of prescribing to current medication management practices of nurses and midwives, and noted the extent to which the professions were at present working in an expanded capacity.

"It is our opinion that nurses often make diagnoses on a regular basis but always need the Doctor to confirm and treat the patient. If the nurse has the post registration experience, and takes the responsibility to be accountable for their actions, having had the necessary training, then, as patients, we feel this method of prescribing is equally as safe as doctors prescribing." (STSURG)

Two organisations (STSURG and ISQSH), said that coronary care units were already utilising a form of collaborative prescribing using written standing orders/protocols. STSURG gave the example of specialised nurses in these areas determining medication dosage changes for a patient's altered heart rate.

In general, the collaborative model was seen to be the most favoured way forward for the introduction of prescribing for nurses and midwives because it was the most relevant to practice areas. Those who supported this model said that it could be utilised by more nurses and midwives. Some said that the independent model was limited because of the small number of specialised and advanced practitioners currently available to support the development of this model.

#### 10.4.2 Benefits to Service Users

##### Time Saving

The majority of respondents stressed the importance of time and the positive impact on efficient health services if nurses and midwives were authorised to prescribe. Many believed that patients/clients would receive faster treatment and care. NFVB stated that this immediacy of care was linked with reducing the risk of deterioration of the client's condition.

A few organisations provided examples of time savings. STSURG and ISQSH mentioned decreased waiting times for specific treatment interventions such as suturing and the application for plaster of Paris casts. Others cited quicker administration of medication for pain management, with examples of maternity care in the post delivery setting and dressing changes. IAEM said that nurse prescribing would streamline the treatment of minor injuries/illness, and for individuals presenting to A&Es.

"As patients, many of us have sat waiting to be seen by a doctor just to confirm what the nurse may have thought was wrong. If the nurse were able to do a full assessment and give the required treatment, then many of us would have been seen quicker and dealt with more efficiently. It would reduce the amount of time waiting without the requirement of a doctor to assess and prescribe."  
(ISQSH)

Nurse and midwife prescribing could lead to early and timely intervention in the prevention of disease (INO), with quicker responses in treating infections and adverse drug reactions (NFVB). Patients/clients, and the service in general, would benefit from speedier discharges from clinics and hospitals (HSE). Equally, those representing pre-hospital emergency care concerns stated that the introduction of nurse prescribing would allow nurses to rapidly supply medication to accident victims and patients with acute medical emergencies.

Time saving was seen to benefit not only the patient but also doctors, and would allow them time for other priorities (ISQSH), such as treating more acute or complex cases. WHC believed that this would be a more effective use of nurses' time.

##### Access and Choice

Access to care was an important consideration for the introduction of nurse prescribing internationally and some organisations (INO, HSE, WHC) said that improved and easier access would be possible, with convenience and choice resulting. NMPDU said that greater access to specialised nursing care would result from an expanded scope of practice by nurses and midwives, which in turn would lead to patient satisfaction. NFVB stated that, with the introduction of nurse prescribing, intellectually disabled clients could have the choice of being treated in their own home, increasing their independence and reducing the need for GP intervention.

##### Improved Medication Management

Many organisations identified general improvements in medication management. These included:

- More frequent review of long term medication therapy (NFVB)
- Positive influence on polypharmacy situations, especially with regard to care of the older person (INO) and chronic psychiatric clients (PNA)
- Encouraging a stronger link between treatment to the review of serum drug levels on a regular and ongoing basis (NFVB)
- Appropriate, safe and efficient medication administration (INO, NMPDU, NFVB)
- More efficient monitoring of medications (NMPDU)
- Improved medication compliance/adherence (NMPDU, PNA)
- More person-centred approach (NFVB)
- Medications adjusted sooner based on early detection of responses or side effects
- Use of non-pharmacological interventions before considering drugs (PNA).

PNA commented that medication management was not just about managing symptoms but about improving the quality of life for people pointing out this activity is at the core of nursing.

### 10.4.3 Benefits to Professional Development

The authority of nurses and midwives to prescribe has the potential to positively affect their own role development, with many organisations expressing the belief that better use of the skills/knowledge and expertise of the nurse/midwife would also result in improved service delivery (HSE, Brainwave, WHC, IBTS, NMPDU, ISIC).

"The introduction of nurse-prescribing would enhance the role of nurses working as part of an immediate care scheme and enable them to deliver a significantly better quality of emergency care for patients." (ISIC)

Organisations identified many other positive points, such as:

- A more autonomous role (DTCB, STSURG)
- "The nurse will be seen as a practitioner in her own right, not supported totally at front line by medical personnel on each occasion" (STSURG)
- Increased empowerment (ISQSH, DTCB)
- Greater career satisfaction (NFVB)
- Encourage nurses to pursue further education (NFVB)
- Improved clinical relationship between nurses and doctors (PNA)
- More effective use of nurses' time (WHC)
- Enhanced clinical decision-making skills (INO)
- Greater partnership with patients/clients (INO)
- Reduce levels of frustration as a result of being able to offer relief to patients (ISQSH).

### Concerns

Some organisations said that there could be potential difficulties for nurses and midwives arising from prescriptive authority. The nurse/patient relationship, seen to be a critical factor in quality care, had the potential to be adversely affected, as nurses could be perceived to be taking on a new role (IAN). The holistic model of nursing care might be steered towards a more medical model, impinging on the profession's ability to provide a person-centred service (WHC) and act as patient advocates (PSI).

NFVB mentioned other potential issues, such as non-prescriber colleagues bullying the nurse, anxiety about medication errors, and threats to nurses regarding concerns about fitness to practice. NFVB and ISMO said that there was a need for consensus on this expansion of practice. The present difficulties in recruiting and retaining nurses was noted, with WHC questioning whether general staffing shortages would develop from nurses/midwives having to undergo the education and training needed to prescribe. They stressed the need for strategic planning to avoid this.

### 10.4.4 Where Should Prescribing be Introduced?

Internationally, nurse prescribing has originated in areas which have been underserved by medical practitioner numbers, typically in rural and isolated areas and in primary care settings (Buchan & Calman, 2004; Towers, 1999). However, this current Review is examining its potential introduction to care settings across the primary/community and acute/hospital care sectors. The questionnaire asked what health care settings would benefit from this practice. Some organisations stated that nurse prescribing would benefit most if not all health settings. The range of answers covered general (e.g. hospitals, community care) to the more specific (e.g. anaesthetics).

Organisations in each stakeholder class mentioned the benefit of nurse/midwife prescribing to primary care settings (IAN, NMPD, IBTS, ISQSH), especially those settings that were geographically remote and/or where there was limited availability of doctors. Some organisations (STSURG, HSE, NFVB, NMPDU, and ISQSH) listed particular service areas, e.g., care of elderly hospitals, hospices, prison services, women's health and mental health care settings. Accident and Emergency settings (including triage and minor injury) and palliative care (NFVB, NMPDU, and HSE) were frequently suggested locations.



Some organisations gave definite health conditions that could benefit from nurse prescribing. These included:

- Diabetes
- Asthma
- Acquired brain injury
- Epilepsy
- Wound care
- Pain management
- Stroke rehabilitation
- Antiemetic therapy for oncology patients receiving chemotherapy
- Individuals requiring anticoagulation treatment
- Intellectually disabled clients particularly those with complex medical needs (e.g., diabetes or epilepsy).
- Anxiety
- Depression
- Challenging behaviour.

Other organisations suggested a specific nursing role appropriate for prescribing: two (STSURG, ISQSH) suggested the advanced nurse practitioner in all acute care settings while three (PNA, ISQSH, IAN) stated that the community mental health nurse was in an optimal position to prescribe. Individual nursing roles referred to were the public health nurse (NFVB), nurses specialising in heart failure (DFI) and psychiatric liaison nurses working in A&E units (PNA).

Two organisations representing pre-hospital emergency care (ISIC and PHECC) believed that the collaborative practice model, used in places such as Queensland, Australia, could not only benefit those needing care in the pre-hospital setting but also in GP co-operative call centres, immediate care schemes and primary care clinics, in addition to A&E units.

Interestingly, two stakeholders (STSURG, ISQSH) suggested that one area that could benefit from nurse prescribing was fall prevention. This was not in reference to ordering of medications but for assessments for equipment (e.g. hip protectors).

In response to the question asking if they believed there were any health service settings unsuitable for this practice many organisations were not specific. There were a few uncertainties expressed about extending it to particular settings and practices. For example, the respondent from DFI believed that anaesthetic care was an appropriate area. STSURG had reservations about this, but said that, with proper training for this area, it would not be a great deal different.

ISQSH was concerned about extending nurse prescribing to patients requiring increased quantities of medications (polypharmacy) for multiple health conditions. They believed that in, these scenarios, prescribing should be lead by the doctor. Prescribing of chemotherapy by nurses was not acceptable to the group representing medical oncologists (ISMO).

NFVB was concerned about "specialised treatment areas" such as HIV units, intensive care units, and theatre where controlled drugs are used and changes in medication dosages and administration are critical. They were also concerned about the introduction of nurse prescribing in some settings: certain day services, independent living locations, early intervention services and home care services.

#### 10.4.5 Necessary Elements for Introducing Nurse/Midwife Prescribing

Many organisations commented in detail on the necessary elements required for the successful introduction of nurse/midwife prescribing. They identified the main elements as:

- Legislation and professional regulation
- Professional liability and accountability
- Education
- Policy and protocol development
- Inter-professional collaboration and support
- Resource allocation.

## Legislation and Professional Regulation

Many said that the current legal framework involving medications was inadequate and that legislation to support the introduction of any model of prescribing practice by nurses and midwives was required (PSI, HPAI, HSE, NFVB, NMPDU, PHECC, WHC, PNA). PSI stated that a new Medicines Act should be created to address all aspects of the prescribing and supply of medicinal products in Ireland. INO said that any legislation drafted should be flexible in its construction to allow for future developments, thus avoiding the need for subsequent revisions. The need for established controls over what should be prescribed was raised with HPAI and NFVB looking for national agreements on the list of drugs that could be prescribed. However others (INO, WHC) expressed caution about creating a medication formulary, mindful of the difficulties (not specified) experienced in other countries, such as the UK.

The need to ensure that there were regulations for controlled scheduled drugs prescribing and administration was mentioned by some groups, with specific mention of their use in palliative care (WHC) and emergency care practices (ISIC). Those working in the area of drug treatment (DTCB) spoke positively about allowing nurses to prescribe these drugs on an individual basis. STSURG stated that, although it had concerns about the prescribing of MDA drugs by nurses, if the same criteria for information were equal for both nurses and doctors it would be satisfied with nurse prescribing. AAI did not support the practice of nurses prescribing any 'proscribed drugs' (this term was not defined). Internationally the regulations for authorising nurses and midwives to prescribe controlled scheduled drugs (e.g. narcotics such as morphine) have been initiated by lawmakers more slowly than they have legislated for non-controlled substances (Pearson, 2001; Phillips, 2005).

PSI and HSE cited the importance of professional regulations for nurse/midwife prescriptive authority; NFVB and DTSB said that organisation policies would need to comply with An Bord Altranais guidelines. Some (NFVB, ISQSH) recommended granting the prescriber a limited license for a designated time period. NFVB, NMPDU, and ISQSH said that competency frameworks would need to be developed to guide the introduction and future monitoring of this advanced practice.

## Professional Liability and Accountability

Clarification of the professional liability and clinical indemnity/insurance coverage of those authorised to prescribe was mentioned by over half the respondents, with ISMO and HPAI expressing concern about the potential difficulties amongst other professions if medication errors were to occur.

"Clarification will be needed prior to introduction about where liability for errors would lie – with the doctor under whose care the patient is or with the prescribing nurse." (HPAI)

Risk taking by those not fully aware of the consequences of their actions was identified as a possible implication resulting from a lack of insight for professional accountability (STSURG, ISQSH). Appropriate risk management strategies would have to be developed alongside the involvement of insurance companies (NMPDU, WHC).

## Education

Organisations offered their views on the educational preparation and associated specialised experience for nurse prescribing. WHC, HSE, NMPDU, and WHC mentioned the academic criteria required for independent prescribing and its link with the development of advanced nursing practice positions.

HSE, NMPDU and NFVB said that independent prescribing should be the remit of the advanced nurse practitioner and/or clinical nurse specialist, based on their advanced education at master's degree and higher diploma. ISIC and ISMO said that the development of advanced nurse practitioner positions was limited at present in their speciality areas, influencing their opinion of the feasibility of introducing independent/autonomous prescribing in their areas since they saw it as an advanced role. NFVB was concerned about the associated cost for the service provider if independent/autonomous prescribing were to be introduced at the ANP or CNS level.

Organisations acknowledged the international education standards for nurse prescribing.

"A very thorough education programme would need to be put in place preferably at master's degree level, similar to the educational criteria demanded of nurse prescribing in New Zealand and Australia." (WHC)

There was general recognition from stakeholders that nurses and midwives were not currently prepared in their educational programmes for this expanded role and would require further instruction to take on the responsibility for prescribing.

"There is a need for specific dedicated education and training to be mandatory for all nurses/midwives who will be undertaking any given module of nurse prescribing. Access to the dedicated education should not only be for CNSs or ANPs but should also be open to nurses with relevant experience in any given field of practice." (INO)

PNA, HPAI, and HSE said that greater knowledge of pharmacology, including the subtopics of pharmacokinetics, drug interactions, would be a primary educational need. Learning the skills of assessment, history taking, diagnosis and decision-making for treatment planning were also essential elements identified. The education should also cover ethical and legal aspects of this prescribing authority (HSE, NMPDU).

Some organisations queried the ability and potential responsibility of nurses and midwives to make a diagnosis, saying that this should be the remit of the doctor only (ISQSH), particularly in relation at the initial stages of patient contact (NFVB). This view was not typical of the majority of respondents.

NMPDU, PSI, WHC, and ISQSH viewed as critical, continuous education and professional development for those granted the authority to prescribe with emphasis on maintaining an awareness of evidence-based practice and research advances to support safe and up-to-date knowledge and competence.

### Policy and Protocol Development

A recurring theme was the association between the introduction of nurse/midwife prescribing and the call for protocol development. The creation of organisational protocols and medication management policies were viewed as necessary structures for a variety of reasons:

- Guidance to both the prescribing nurse/midwife, service providers
- Protection of the public through safe and quality practices
- To support multidisciplinary teamwork.

Patient group directions (UK) clinical practice guidelines (PHECC, Ireland) and Health Management Protocols (Queensland, Australia) were cited (WHC, PHECC) as positive supports implemented internationally and in Ireland (PHECC) for this process. PHECC and IBTS believed that standardisation of protocols (particularly on a national level), with regular review, would be a desirable outcome, especially in the introduction of a collaborative model of prescribing.

### Inter-professional Support and Collaboration

NMPDU, WHC, STSURG and INO said that obtaining support and collaboration from other health care professionals (especially medical practitioners) would be critical to the success of nurse/midwife prescribing. Partnership agreements amongst stakeholders (including trade unions), and sharing of information and education amongst the clinical team and non-clinical staff (e.g. management) needed to be introduced. Developing systems and processes for effective collaborative working were seen by NMPDU, PNA, and HSE to be determining factors, as inter and intra professional boundaries existed and conflicts could arise from perceived threats to role ownership.

### Resource Allocation

NFVB said that financial considerations for education programmes for nurse/midwife prescribing and auditing of practices should be addressed in the early stages of development, including the issue of salary increases for nurses and midwives taking on this added professional responsibility. HSE recommended study of the impact and cost of extending prescribing rights to nurses and midwives in relation to the pharmaceutical budgets of health service providers.

WHC and NFVB said that the necessity to create adequate mentoring and supervision arrangement might contribute to possible issues in human resource allocations. INO suggested that the current workload and delivery of nursing care services by nurses and midwives would need to be reviewed in relation to the expanded role of prescribing.

## 10.4.6 Promoting the Efficiency of Health Care Delivery

Efficient delivery of health care services is an important objective for any health care system (Maxwell, 1984). Other countries experiences have examined the benefits achieved realising more efficient services through this expanded scope of practice (Latter & Courtenay, 2004; Luker, 1997; New Zealand MOH 1997). The questionnaire asked how nurse/midwife prescribing could contribute to this goal. The responses focused on the efficient utilisation of resources and the quality of health care.

The benefits mentioned were:

- Fewer admissions to hospitals, especially through A&Es (IAEM)
- Expedited discharges from the hospital and clinics (HSE, NFVB, NMPDU)
- Potential decrease in number of GP visits (STSURG)
- Possible solution to the challenges faced with the European Working Time Directive and medical practitioner availability (WHC, ISMC, PNA)
- Cost savings resulting from less dependency on health care services (NFVB, NMPDU, HSE, DTSB, INO)
- Allocation of health care staff to sicker individuals (PHECC, NFVB, ISQSH, STSURG)
- Improvement on the quality of care realised through
  - enhanced case management (DTCB)
  - more holistic approach (NMPDU)
  - safer care delivery (ISQSH, INO)
  - ability to provide a seamless system (IBTS, DTCB)
  - improved communications (WHC).

Many organisations (ISQSH, STSURG, DTCB, PHECC, and IBTS) spoke about the present problems in delivering care, such as the current scarcity of professional health care, resulting in patients competing for treatment. Examples cited were the availability of medical practitioners in the areas of intellectual disability and in rural and remote pre-hospital emergencies. Examples were provided of present practices of care delivery emphasising nurses' extensive involvement and increased responsibility for medication management (e.g. advising medical practitioners on medication changes (NFVB), assessing and formulating a diagnosis prior to consultation with the prescribing doctor (STSURG), and to demonstrate the need for nurse/midwife prescribing.

#### 10.4.7 Acceptance by Patients/Clients of Nurse/Midwife Prescribing

One of the most critical factors in the successful introduction of prescriptive authority by nurses and midwives will be its acceptance by the health care user. Providing services in association with health care staff that satisfy the expectations of patients/clients and the community, is an integral part of quality assurance (Maxwell, 1984).

The questionnaire asked for opinions as to whether this expanded scope of practice would be acceptable to patients/clients. Sixteen organisations generally believed that it would. NMPDU, PNA, Brainwave, and NFVB stressed the need to adequately educate, and consult with, service users prior to and during the implementation of prescribing by nurses and midwives to facilitate acceptance. WHC and NFVB said that a gradual commencement would encourage greater acceptance by the public.

"Many people with epilepsy would benefit significantly by having access to specialist nurse prescribers (i.e. specially educated professionals) and once the process is explained to individuals it would possibly be acceptable to most patients/clients." (Brainwave)

Many responses referred to the international experiences of nurse prescribing and patient/client support and satisfaction with it. PHECC mentioned the Collaborative Practice Model utilised in Queensland, Australia, which, they said, was well accepted by medical practitioners, communities and the public in general.

"All international research demonstrates what the INO believes, that there is a high level of patient/client satisfaction where nurse prescribing is introduced." (INO)

"Evidence suggests that patients attending Accident and Emergency Departments are highly satisfied with the treatment they receive from nurse practitioners (Bache, 2001). There is therefore no reason to suspect that they would be reluctant to accept treatment from a suitably trained nurse in the pre-hospital setting." (ISIC)

ISQSH, NFVB, and PNA said that the strength of the nurse/patient relationship was a critical factor in public acceptance of nurse/midwife prescribing and the nurses' knowledge, personal experience and trust with service users were key determinants for this.

"In a lot of settings, e.g. Care of Older Person/Palliative Care/Community Mental Health Services, working relationships exist between people with intellectual disabilities, families and staff. Confidence and trust already exist, so nurse prescribing would probably be accepted." (NFVB)

DTSB said that having a central person to work closely with patients was beneficial for continuity of care, particularly as the practice of rotating doctors through the service on a monthly basis caused disharmony.

Others expressed reservations. NFVB suggested that some individuals would be uncomfortable with this change and perhaps not have confidence in the nurses' ability to prescribe "more potent" medications. NMPDU cited initial confusion on role boundaries amongst doctors and nurses. HPAI was concerned that risk management issues involving prescriptive authority might not be fully understood by patients. ISQSH said that acceptance by patients could be lacking if they believed that access to their doctor would be made more difficult because of nurse prescribing. IAN believed that retaining this right would be a necessary assurance for patients/clients. NMPDU and NFVB suggested that further research (e.g. patient satisfaction studies, public consultation) with service users might be necessary.

#### 10.4.8 Additional Comments

Respondents were invited to offer any further comments on nurse/midwife prescribing. Many reiterated their support for the introduction of this expanded role for the professions, and said that meeting patient/client needs should be the driving factor for its introduction, as well as meeting the objectives of national health strategies. Other recurring points were competence, quality assurance and ensuring patient safety by means of legislative and professional regulatory processes.

IAN suggested a "national prescribing appeals panel" representing patients, legal and medical professions to examine all situations of alleged over-prescribing practices. Brainwave spoke about the lack of specialised health care professionals available for the treatment of epilepsy. DTCTB called for an information technology system to replace the current paper system.

### Summary

The survey findings on the exploration of the need for nurse and midwife prescribing was directed at patient groups, professional and academic organisations and statutory bodies representing medicine, pharmacy and nurses and midwives. Views were sought on the need for the independent and collaborative models of prescribing practices; the perceived benefits of prescriptive authority for nurses and midwives; quality assurance; and safety to patients and clients. Fifty eight organisations were sent the survey and 20 replied. Seven general themes resulted from the analysis with sub themes identified. Findings revealed many diverse and complex issues focusing on where prescribing should be introduced, in what practice settings, the level of education preparation and experience required for prescribing and the supports that would need to be introduced for this practice. The Potential benefits to the patient/client were mentioned, along with their likely acceptance of nurse/midwife prescribing. Organisations also considered the potential improvements in service delivery.

# CHAPTER 11

## Pilot Site Study

### 11.1. Introduction

One of the terms of reference for the Review was the initiation and evaluation of nurse and midwife prescribing in pilot sites. This has been accomplished. The methodology used in establishing a pilot site study, the evaluation tools used and the results of the study are presented in this chapter. The Steering Committee examined the various models of prescribing used internationally, and the legislative framework that would be required to support this practice and decided that the model of prescribing for the pilot study would involve the supply of medications by the participating nurses and midwives using locally devised protocols. International experiences and literature validates the model of collaborative prescribing by means of supplying medications under protocol. The supply of medications by nurses within a medication protocol is a collaborative method of prescribing that gives authority to the nurse to initiate, administer or supply a medication to groups of patients in a defined situation (New Zealand Ministry of Health, 1997; Poulton, 1994).

The Project Team consulted with practising independent nurse prescribers from the UK who completed the first education programme in 1994 and academics in the subject area. Key personnel associated with a similar project being conducted by the Northern Ireland Department of Health, Social Services and Public Safety (DHSSPS) were also consulted. The prevailing view was that the education programme and competencies for nurses prescribing in a collaborative model should be of similar content to that of independent prescribing, as the nurse/midwife requires the same critical thinking patterns and decision-making skills in using protocols.

Buchman and Calman (2000), authors of *Implementing Nurse Prescribing – A Review of Current Practice Internationally* support this view. They state that protocol use may be a stepping-stone towards independent prescribing, as protocols facilitate nurses to develop the necessary experience and competencies. The physical assessment and clinical decision-making towards a plan of care for the clinical condition of the patient/client is required by the nurse before she/he supplies a medication under protocol, and so the nurse makes a prescribing decision, although a dependent one.

The structure and process of the model employed in the pilot study was collaborative prescribing utilising medication protocols. The nurse/midwife was authorised to initiate treatment to a patient/client for the supply and administration of a designated medication for a defined clinical situation without an individually named prescription from the medical practitioner. The plan to use a collaborative model of prescribing using medication protocols led to the following objectives for the pilot study:

1. To evaluate the effectiveness of nurses' and midwives' clinical decision-making using medication protocols
2. To examine the perceptions of participating health care staff on this model of prescribing for patients in their practice setting
3. To measure patients' satisfaction with the information they received on the medications they were supplied with as per the medication protocol.

Certain structures were developed to meet these objectives. In order to prepare nurses and midwives for their expanded role in the pilot sites, a medication protocol framework and competencies for collaborative prescribing, linked with an education programme, were developed in the early stages of the project.

The evaluation tools used during the implementation phase took into account the diversity of practice settings, the varying education backgrounds of the participating nurses and midwives and the selected model of study. The development of these tools are presented within the implementation and evaluation phase section in this chapter.

## 11.2. Protocol Framework Development

The framework was based on evidence of best practice from the UK, Australia and New Zealand (DH, 1998; New South Wales Health Department, 2001; New Zealand MOH, 2002; Nursing Board of Tasmania, 1997; Parker, 2001). There were three main objectives for constructing the framework:

1. It would facilitate the development of site-specific and medication-specific protocols that would guide the nurse/midwife participant to prescribe, in collaboration with the clinical mentor.
2. The clinical assessment criteria, the management and the monitoring of the patient/client would be written within the medication protocol. These specifics would require the nurse/midwife to be knowledgeable of the disease process or health need, possess the physical assessment and history-taking skills, and be able to decide on the appropriateness of initiating the medication as per protocol. The specifics would be incorporated into the education programme.
3. The framework would be used during the implementation phase of the pilot study. The locally devised medication protocol would be examined in conjunction with the nurse/midwife documentation of patient care to allow the involved medical practitioners to evaluate the clinical decision-making abilities of the participants, as they related to the process of collaborative prescribing.

The framework provided specifications for drawing up the protocol for use at the local pilot site, under the headings of clinical criteria, medication documentation requirements, follow-up care, management, and monitoring of protocol details. It gave specific attention to the nursing/midwifery assessment of the patient/client and the possible exclusions from use of the protocol. These included complex medical needs, age, and/or physical examination and history findings that did not correlate with clinical findings as defined in the protocol. Criteria for follow-up care, particularly referral to the medical practitioner, to ensure continuity of care amongst the health care team and the process for reporting medication errors and adverse events, were also included. (See Appendix 7 for the template of the medication protocol framework).

## 11.3. Competencies for Collaborative Prescribing

Internationally, nursing and midwifery regulatory bodies have established competency and standard frameworks to support the pre-registration education of the professions and to facilitate advanced practice, particularly in prescribing medications (See Chapter 3). The template for the development of competencies for collaborative prescribing drew on the work of international nursing regulatory and professional organisations to assist in the creation of a standard for Irish nursing/midwifery practice for collaborative prescribing within the pilot study. The registration competency framework of An Bord Altranais, with its five established domains:

1. Professional/ethical practice
2. Holistic approaches to care and integration of knowledge
3. Interpersonal relationships
4. Organisation and management of care
5. Personal and professional development

was also considered in conjunction with the international standards to develop this template (See Appendix 8). These competencies provided a foundation for the structure of the education programme to support the participating nurses and midwives. The medical practitioners acting as clinical mentors and independent verifiers were also provided with the competencies prior to commencement of the pilot study. Throughout the course, the clinical mentor and educators used the competencies as part of the educational assessment process. The competencies were also used to evaluate the clinical decision-making of the nurses and midwives.

## 11.4. Criteria for Nurse/Midwife Participation

The international experiences were examined in establishing the criteria for nurse/midwife participation in the pilot study. The Project Team engaged with international nurses and other health care professionals to gain an understanding of their experiences of introducing prescriptive authority, both from educational and professional/regulatory criteria for nurses/midwives. They advised that specialised nurses and midwives, who had obtained prescriptive authority in their countries, had undertaken extensive educational programmes in advanced clinical decision-making, physical assessment skills, pathophysiology and pharmacology.

The *Report of the Commission on Nursing* (Government of Ireland, 1998), *Review of Scope of Practice for Nursing and Midwifery Project* (An Bord Altranais, 2000a) and information obtained during Project Team meetings with nurses and midwives showed that all scopes of practice had concerns with medication



management for their patients. This was substantiated in the focus group discussions (See chapter 7). Thus, an inclusive approach was employed for the pilot study to support nurses and midwives from a variety of practice settings and educational attainments. With this in mind, the Steering Committee established the following criteria for nurse/midwife participation within the pilot study:

- Registered nurse/midwife on the active Register of An Bord Altranaís
- Minimum of three years post-registration clinical experience
- One-years' experience within the specific area of practice
- Evidence of continuing professional development of at least five days in the previous two years
- Must be employees of the institution where they would prescribing
- Successful completion of the education programme for collaborative prescribing.

## 11.5. Selection of Pilot Sites

A project plan was prepared and circulated to the Chief Executive Officers and Directors of the Nursing and Midwifery Planning and Development Units (NMPDUs) of each health board. The Directors of the NMPDUs distributed the plan to the Directors of Nursing and Midwifery within their health board areas and invited interested organisations to submit an application to the NMPDUs to participate in the pilot. Those outside of the health board structures, such as practice nurses within a primary care practice setting, were requested to submit their applications directly to the Project Team.

Interested organisations were invited to complete an organisation application, which included the written commitment of a medical practitioner, who would act as a clinical mentor for the nurse/midwife enrolled in the pilot site. The mentor would provide the nurse/midwife with crucial supervision, support and opportunities to develop competence in their prescribing practice during the education programme, and also throughout the implementation and evaluation phase of the pilot study. The criteria for clinical mentor participation were:

- Should be employed as a General Practitioner or Consultant within a health board or hospital
- Have three years' experience in the clinical area of practice where the nurse/midwife would be using the protocol
- Have the support of the employing organisation or other partners of the GP practice to act as the designated clinical mentor who would provide the supervision and support necessary to facilitate the student in meeting his/her learning objectives
- Have experience of clinical mentoring and/or supervising in practice
- Be familiar with the nurse/midwife education programme for collaborative prescribing and its learning outcomes.

The application for participation as a pilot site also required the commitment of another medical practitioner as an independent verifier to provide an unbiased evaluation of the clinical decision-making of the nurses/midwives using the medication protocols. Verifiers had to be employed in the same speciality area of practice as the clinical mentor. Their responsibilities included an audit of a random number of patients' medical records treated by the nurses/midwives who used a medication protocol during the pilot site study. Participation by a pharmacist in the pilot site was also sought in the application to facilitate the development of the medication protocols and act as a resource during the implementation phase.

### Selection Process

The Directors of the NMPDUs were asked to select three sites that met the following criteria:

- Regional and geographic diversity
- Identification of service need
- Existence of collaborative relationships amongst the health care staff
- Scope of practice diversity
- The professional need for prescribing by the nurse/midwife
- Local supports.

Sixty-five applications were returned to the Project Team from the Directors of NMPDUs and from some nurses and midwives outside the formal health board structure. The applications represented a diversity of practice areas

such as primary care, care of the elderly, midwifery, paediatrics, intellectual disability, mental health, palliative care, occupational health and specialities within the acute care hospital setting. The Project Team presented the applications to the Steering Committee and 16 sites were selected. Table 16 lists the original 16 sites and the scope of practice of the nurse/midwife participants.

**Table 16. Initial Pilot Sites and Associated Scope of Practice and Health Board Area**

Organisation	Scope of Practice	Health Board
Clondalkin Mental Health Services	Psychiatry	ERHA/SWHB
St James's Hospital*	Sexual Health	ERHA/SWHB
National Maternity Hospital*	Homebirth/Domino Scheme	ERHA/ECAHB
St Luke's Hospital*	Oncology	ERHA/ECAHB
Mater Hospital	Accident & Emergency	ERHA/NAHB
Rotunda Hospital*	Neonatal Intensive Care Unit (NICU)	ERHA/NAHB
Midland Regional Hospital	Heart Failure Clinic	MHB
Limerick Regional Hospital*	Coronary Care Unit	MWHB
St Mary's Hospital*	Intellectual Disability	NEHB
Virginia Primary Care Team	Primary Care	NEHB
Lifford Health Centre	Primary Care	NWHB
Sligo General Hospital	Midwifery	NWHB
St Finbarr's Hospital*	Care of the Elderly	SHB
St Patrick's Hospital*	Care of the Elderly	SEHB
Waterford Regional Hospital	Accident & Emergency	SEHB
Inismaan Community Services*	Public Health	WHB

\* = Participated in the implementation/evaluation phase

At various stages of the pilot study, the Project Team visited each site to meet the health care team members involved, to provide an overview of the project content and timeframe for data collection, and to answer any questions that they might have.

## 11.6. Education Programme

One of the preliminary steps in formulating the pilot study was to determine an appropriate educational programme for the participants. The inclusive nature of the study regarding the broad representation of practice settings and diversity of academic attainments and clinical experience of the nurses and midwives posed a number of challenges in creating a generic programme to address these diversities.

Under the auspices of the Review's Subcommittee, the five schools of nursing with an affiliated school of medicine were contacted in October 2002 and invited to submit proposals for the development and delivery of an education programme for collaborative prescribing by nurses and midwives at the pilot sites. The essential components for the formation of the programme including the competencies for collaborative prescribing were communicated to the Directors of Nursing of the schools. The Royal College of Surgeons in Ireland (RCSI) School of Nursing and Midwifery, under the direction of Professor Seamus Cowman, was selected to deliver the programme.

### 11.6.1 Programme Structure and Content

The development and delivery of the education programme by RCSI involved the School of Nursing and Midwifery, in association with the Schools of Pharmacy, Medicine and Information Technology, and was based on the competency framework for collaborative prescribing developed by the Project Team (See Chapter 3). The programme was modelled on many of the same criteria as that in the UK: 200 hours/25 days of theoretical instruction, and clinical mentorship time with a designated medical practitioner of 96 hours/12 days.

Videoconferencing facilities were provided in Limerick, Waterford, Sligo and in Drumcar to accommodate many of the 37 participants who were located in areas not convenient to the RCSI in Dublin. An Education Steering Committee was established to direct the programme, with representatives from An Bord Altranais, the National Council, RCSI and students. The programme received Post-Registration Category II An Bord Altranais

approval and was conducted from 31 March 2003 through to 30 September 2003. The content of the education programme comprised four units of study:

- Professional, ethical and legal practice
- Diagnosis/systematic assessment and evaluation in patient care
- Pharmacology and prescribing
- Communication, collaboration and inter-professional relationships.

The model of collaborative prescribing used in the pilot study was dependent on the integration of classroom learning and the clinical practice setting. It required the clinical mentor to provide the student with learning opportunities and supervision during the course of the programme. To support the clinical mentor in this role, RCSI provided a mentorship training session prior to the commencement of the education course which was attended by many of the designated medical practitioners from the 16 pilot sites. The session covered the background of the pilot study and development of the education programme, international perspectives of nurse/midwife prescribing, and the mentor's role and responsibility during the study. It also gave an overview of the education programme, inclusive of the competencies of collaborative prescribing and the associated outcomes and methods of assessment for the programme.

Theory/classroom teaching and the clinical practice environment were also linked by instructions provided by RCSI medical lecturers on physical assessment skills and history taking – essential steps in the prescribing process. There was classroom instruction, using healthy individuals as models. In their practice areas, students then applied what they had learned under the supervision of their mentor. A programme co-ordinator met with the participants and mentors in their own practice areas to review progress and address any concerns.

During the education programme, the Pharmaceutical Society of Ireland held an information day for the pharmacists participating at the pilot sites. The Project Team, along with the RCSI programme co-ordinator, attended the session to provide an overview of the pilot study and education programme.

### 11.6.2 Assessment of Students

Participating nurses and midwives were assessed on their comprehension of the content of the education programme and individual competency specific to their own area of clinical practice. The three main assessment methods were:

- Objective Structured Long Examination Record (OSLER)
- Written assessment
- Presentation of an individual medication protocol.

The student was required to complete three OSLERs with the clinical mentor during the course of the programme. An OSLER measures a student's clinical competence in patient assessment and management. Specific areas of evaluation are history taking, physical examination, planning of relevant investigations, identification of the patient's problem and treatment planning. The written examination covered the content of the four units of study outlined above and evaluated the participant's knowledge of the standards and process of safe prescribing, including the pertinent legislation and professional guidelines that inform their practice. Using the medication protocol framework, participants were expected to present a single protocol, which was to be devised at the clinical area of practice with multidisciplinary support (e.g. participating medical practitioners and pharmacists).

### 11.6.3 Programme Completion and Evaluation

Thirty-two nurses and midwives successfully completed the education programme in September 2003. RCSI conducted a comprehensive evaluation of the programme, which highlighted issues regarding the diversity of clinical practice settings and the criteria for nurse/midwife participation in the pilot study. The main recommendations, which focused on the elements of clinical mentorship and diversity of entry criteria for participants, were:

- The clinical mentorship aspect of the programme was crucial in helping to develop the clinical skills and knowledge of nurses and midwives in their expanded scope of practice for prescribing. In recognition of this, a standard for mentoring should be instituted in any future programme of study
- Clear guidelines should be provided as to the objectives of the requirements for clinical mentorship/student hours
- Minimum educational entry criteria should be established for incoming students to enable appropriate instruction of course content. The range of educational experiences of nurses and midwives presented

numerous challenges in delivering the theoretical component of the programme. This point was raised by students and educators and in the External Examiner's Report.

- The education programme for nurse/midwife collaborative prescribing was delivered as an independent module, receiving Post-Registration Category II An Bord Altranais approval. RCSI recommended that it be integrated into a programme that awards an academic qualification.

These recommendations are in line with the majority of international experiences of developing the educational supports and structures for the introduction of nurse/midwife prescribing, which are detailed elsewhere in this Report.

## 11.7. Implementation and Evaluation Phase

Prior to the start of the implementation/evaluation phase of the pilot study, which had been scheduled to begin in October 2003 a number of participating sites requested additional clarification of the current legal framework supporting the use of medication protocols. This legal issue was brought to the attention of the Department of Health and Children, which subsequently requested the advice of the Office of the Attorney General. The Attorney General advised that *Medicinal Products (Prescription and Control of Supply) Regulations 2003, Statutory Instrument (SI) 540 of 2003* did not apply to hospitals. The Department of Health and Children stated that hospitals and their management were responsible for the procedures and controls that were applicable to medicines. (This responsibility does not extend to controlled scheduled drugs, which are regulated under the *Misuse of Drugs Acts*). This clarification, which was provided in September 2004, allowed the pilots sites to begin the implementation and evaluation phase of the study, albeit with a delay of one year.

The time delay between the completion of the education programme and the commencement of the implementation phase (14 months) impacted on the number of participating nurses and midwives at the sites. Some nurses and midwives had left their positions to take other jobs within the health care service. Others took on different roles within their own organisations, which limited their direct clinical time with patients thereby limiting their prescribing opportunities. Ethical approval and pharmacy co-operation could not be obtained within the time schedule established for the pilot study, which eliminated some sites from participating in the implementation phase.

Collaborative prescribing by the nurses and midwives utilising locally developed medication protocols commenced during November 2004 with nine sites and 17 nurses and midwives participating. (Due to operational issues, the other seven sites were unable to participate). See table 17 for participating sites.

**Table 17. Pilot Sites Participating in the Implementation and Evaluation Phase**

Organisation	Scope of Practice
St James's Hospital	Sexual Health
National Maternity Hospital	Homebirth/Domino Scheme
St Luke's Hospital	Oncology
Rotunda Hospital	Neonatal Intensive Care Unit (NICU)
Limerick Regional Hospital	Coronary Care Unit
St Mary's Hospital	Intellectual Disability
St Finbarr's Hospital	Care of the Elderly
St Patrick's Hospital	Care of the Elderly
Inismaan Community Services	Public Health

The implementation and evaluation phase at these nine sites extended over a three-month period, with the final data collected in March 2005. The actual number of protocols that were developed was decided locally at each site and was based upon meeting the needs of the patients/clients in the particular practice setting.

### 11.7.1 Measurement Tools

There were three measurement tools used at the various phases of the pilot site evaluation:

1. Clinical Decision-Making Audit Tool
2. Post-Implementation Questionnaire
3. Patient Satisfaction with Information on Medicines Tool.

### 11.7.2 Clinical Decision-Making Audit Tool

The conceptual framework for this evaluation was constructed to guide the design of the evaluation and thereby improve the validity of its conclusions. The framework devised was an adaptation of the conceptual framework of medication management as devised by McCloskey and Bulechek (2000) in their Nursing Interventions Classification (NIC). Some of the nursing interventions in *Medication Management* (p. 451) and *Medication Prescribing* (p. 453), such as evaluating patients for signs and symptoms of their current health problem and determining past medical history/medications, were considered in developing the audit tool. Questions were also generated using the manual *Partners in NP Education: A preceptor manual for NP programs, faculty, preceptors and students* (NONPF, 2000). Since collaborative prescribing is an advancement in practice, this manual offered an adaptable evaluation of the nurses'/midwives' process of history-taking and physical exam, which compose some of the main components of the prescribing process. Both the NIC and the NONPF items were congruent with the competencies and the protocol framework provided as part of the educational preparation for the nurses and midwives.

The nurse/midwife clinical decision-making audit tool was a 21-item tool with a Yes/No/NA response format. The audit tool consisted of items that reflected the prescribing process such as, *Were the critical elements of the physical exam conducted to confirm the signs associated with the patient's clinical condition?* and *Did the nurse/midwife identify the patient/client's known allergies?* (See Appendix 9 for the tool). The clinical mentor and independent verifier used this tool to audit the clinical decision-making of the nurse/midwife participants through an assessment of the documentation in the patient's chart of the treatment provided by the nurse/midwife.

### 11.7.3 Post-Implementation Questionnaire for Participants

An open-ended questionnaire was used for evaluation purposes. This qualitative approach allowed the respondents to provide detailed replies regarding their perceptions of the pilot, which would not be possible with a close-ended question format. The project plan for the pilot study and review of the literature of the outcome studies of nurse prescribing were utilised in the development of the post implementation questionnaire.

The main objective of the tool was to evaluate the perceptions of nurses/midwives, clinical mentors and pharmacists on the effectiveness of this model of collaborative prescribing using medication protocols for their practices. Stemming from this objective, five focus areas were identified for detailed study within the questionnaire. They were:

1. Patient benefits
2. Health service benefits
3. Collaboration amongst health care professionals
4. Education programme
5. Structure and process of the model.

Some of the questions devised to explore these areas were linked with others, as they asked general information from the participants. Separate questionnaires, with different wording, were created for nurses and midwives, clinical mentors and pharmacists based on their involvement of the pilot sites (See Appendix 11). There were 12 questions for nurses/midwives and clinical mentors to answer based on the five focus areas. The pharmacist's questionnaire differed slightly, consisting of eight questions and did not include questions about the education programme as they were not directly involved in the instruction for the participants. All participants were asked to provide a brief explanation with their responses to each question.

The questionnaire was to be completed anonymously without reference to the actual pilot site. At the end of the questionnaire, respondents were given an opportunity to share any comments on any aspects of the pilot study that were not raised in the questionnaire. A cover letter accompanied the questionnaire thanking each person for participating in the study.

### 11.7.4 Patient Satisfaction with Information on Medicines Tool

Patient education has been shown to be most important in the delivery of a quality healthcare service (Brooks, 2000; Coulter et al., 2002; Fallon, 2002). Education of the patient is integral to medication management and the patient's satisfaction with the provision of information by the nurse/midwife was seen as an appropriate measurement for this study.

Three tools were devised, a generic, midwifery and a NICU-specific tool to accommodate the needs of the various sites (See Appendix 10). The generic tool (22 items) was suitable for use at the majority of pilot sites. The midwifery tool was the same except that it refers to 'midwife' instead of 'nurse'. The third tool (14 items) was

developed for the NICU site and was for completion by the parent/relative of the baby being treated. This tool had fewer items than the generic tool because some had no relevance in this particular setting. Each of the tools contained six items regarding social demographics such as age, gender and length of illness.

A 16-item self-administered questionnaire was developed based on the activities associated with medication management. Most questions asked the patient to rate their level of satisfaction through a YES/NO response format, followed by a five-point Likert scale, rating their satisfaction from completely satisfied to completely dissatisfied.

The development of the final questionnaire relied on a number of sources for support and guidance regarding its format, clarity and ambiguity. The Irish Patients' Association provided valuable feedback on initial drafts of the questionnaire. Another useful resource was the Forth Valley Primary Care NHS Trust, which has published guidelines on developing written information for patients (NHS Fort Valley, 2002).

A patient information sheet explained the reasons for conducting the study and ensured complete confidentiality to those involved. Anonymity was ensured, as the only identification marker on the survey was the site ID number, signifying where the patient was treated, but not the patient's identity. This further aided in maintaining the patient's confidentiality. The patient was also provided with an envelope, into which they put the completed questionnaire, and returned it to the nurse participant.

Most sites chose to include their patients in this evaluation with implied consent. Five sites, on the advice of their ethics committees, requested the need for consent and a consent form was provided for use by the patient prior to participation in the pilot study.

### 11.7.5 Data Collection

On a fortnightly basis, each site submitted a master sheet via fax to the Project Team. This was a record of each patient the nurse/midwife participant had treated using a medication protocol during the previous two weeks. This information was then used by the Project Team to randomly select a number of patient records for auditing by the clinical mentors and independent verifiers at each site. The selected patients' records, identified only by their medical record number, were sent on an audit sheet to the sites every two weeks. These records were then used for auditing of the nurses'/midwives' documentation by the clinical mentors and independent verifiers using the clinical decision-making audit tool.

All patients who were treated with the medication protocols were requested to participate in completing the patient evaluation tool by the nurse/midwife participant. There were no specific exclusion criteria except that the patient had to be capable of completing the tool unaided by the nurse/midwife.

The post implementation questionnaire tool was sent to all participants at each site at the end of the implementation phase of the study. The data from the clinical decision-making audit tool and the patient satisfaction with information on medicines tool were analysed using SPSS version 11.5. The post-implementation questionnaires underwent qualitative thematic analysis.

## 11.8. Results

### 11.8.1 Clinical Decision-Making Audit Tool

A total of 223 audit tools were submitted by the clinical mentors and independent verifiers for the patient care provided by the nurse/midwife participants over the three-month evaluation period. The table below illustrates the results of the audit that was conducted on 13 nurse/midwife participants. Four participants did not submit any audit tools, two participants had moved into positions with limited patient contact and had no opportunity to utilise the medication protocols. The remaining two participants initiated treatment using the protocols but the audit tools were not submitted. The non-applicable responses are not presented in this table and the remaining categories of YES; NO; DON'T KNOW and missing data are shown along with the total number of applicable cases for each question.

**Table 18. Clinical Decision-Making Audit Tool Results**

Activities	Yes	No	Don't Know	Missing Data	Total N =
1 Did the nurse/midwife evaluate the symptoms of the patient/client's current health problem?	100%				
2 Was a comprehensive and/or problem-focused health history obtained from the patient/client?	99%	1%			214
3 Did the nurse/midwife determine the patient/client's past/present medication use?	99%			1%	216
4 Did the nurse/midwife determine the use of complementary/ alternative therapies used by the patient/client?	92%	7%		1%	147
5 Did the nurse/midwife identify if the patient/client had any known allergies?	99%			1%	205
6 Did the nurse/midwife determine the patient/client's family medical history?	84%	15%		1%	165
7 Were the critical elements of the physical exam conducted to confirm the signs associated with the patients clinical condition?	97%	2%		1%	221
8 Were appropriate diagnostic tests utilised as outlined in the protocol?	99%			1%	165
9 Did the patient/client satisfy the clinical criteria as stated in the protocol?	98%	2%			216
10 Were exclusion criteria, as stated in the protocol, ruled out?	96%	4%			174
10a If the patient/client has been excluded, have appropriate actions been taken	72%	14%		14%	16
11 Was an appropriate and timely consultation initiated where the patient/client's condition exceeded the confines of the protocol?	98%			2%	94
12 Were appropriate non-pharmacological treatment modalities considered in the plan of management?	94%	6%			156
13 Was the patient/client monitored for therapeutic effect of their medication?	94%	4%		2%	205
14 Was the patient/client monitored for signs and symptoms of drug toxicity?	94%	5%		1%	185
15 Was the patient/client monitored for side effects from their medication?	95%	4%		1%	196
16 Was the patient/client monitored for non-therapeutic drug interactions? (e.g. food, other drugs, etc)	95%	4%		1%	163
17 Did the patient/client have an adverse reaction to the medication?	3%	92%	1%	4%	181
17a Was the appropriate procedure for reporting the adverse reaction conducted (as per protocol)?	69%		7%	24%	29
17b Was follow up care post adverse reaction required by the patient/client?	48%	19%	7%	26%	27
17c Was the follow-up care post adverse reaction appropriate?	60%		30%	10%	23
18 Was the administration of the medication using the protocol documented in the patient/client's drug kardex®?	96%			4%	201
19 Was advice given to patient/client regarding their medications?	92%	4%		4%	174
19a Was the advice given appropriate?	95%			5%	174
20 Was follow-up appointment/care planned to appropriately monitor and evaluate the patient/client's condition?	96%	2%		2%	201
21 Was the patient/client or relative advised when to seek additional assistance following discharge?	91%	3%		6%	147

By examining the total numbers column for each criteria (subtracted from the overall figure of 223 episodes of care audited) it is shown that there were many elements of the audit that were not applicable to the practice setting. Medical practitioners deemed some of the audit criteria to be not relevant at their sites. Reasons for this outcome capture the diversity of the pilot areas i.e. many patients were being treated in care of the elderly and intellectual disability sites and presented with illnesses such as dementia, cognitive impairment and no speech.



The applicable results are overwhelmingly positive and show that the majority of nurse and midwife participants addressed the above criteria for the supply of medication to patients using the medication protocols and were deemed competent by the clinic mentors and independent verifiers through their chart review. An overall view of the 26 criteria points of reveals that the YES response categories were typically over 90% (20 out of 26). Seventy two percent of participants undertook appropriate actions if the medication protocol was not initiated due to patient exclusion although 14 % did not and there was a similar percentage where this criteria was not answered by the medical practitioner.

Fifteen percent of participants were said not to have questioned the patient/client about their family medical history. However, in reviewing the additional comments written in the audit tool by the doctors it was noted that this finding in the majority of cases applied to one practice area where family history was not part of the required assessment for a specific group of patients. Audit questions pertaining to adverse reactions (17a, b and c) had significant percentages of missing data and the reasons for this are not known. However, only 3% of participants had documented that the patient/client had an adverse reaction to the medication supplied under protocol.

The medical practitioners commented that the nurse/midwife participants' documentation was excellent and extremely comprehensive.

"Precise documentation, appropriate use of medications and monitoring of treatment response."

"Accurate documentation, high quality professional work."

"Good evaluation of patients needs prior to treatment and alternatives explored."

"I wish our SHOs could document with this attention to detail."

At the same time, some medical practitioners said that documentation could have been improved in a number of areas: the follow-up required for patients, advice given about medications, and assessment of side effects and, in one particular setting, certain aspects of the physical assessment required. The medical practitioners referred to other areas that needed further development: the provision of information to patients, follow-up care, monitoring for drug toxicity and ruling out exclusion criteria.

"...Appropriate prescribing of prochlorperazine but no monitoring of side effects or adverse reactions."

"No note of whether or not severe renal impairment had been checked but this may be taken as having been covered in general notes."

These clinical audit findings, including the medical practitioners' comments, emphasise the broadness of medication management practices by nurses and midwives, which is continually developing and refining to meet the needs of patients and clients safely and effectively.

### 11.8.2 Patient Satisfaction with Information on Medicines Tool

A convenience sample of patients was selected on presentation for treatment. There were no exclusion criteria except in the event that a patient was unable to complete the questionnaire alone, without the input of the participating nurse/midwife. As previously noted, there were particular practice settings (care of the elderly and intellectual disability) in which patient feedback was expected to be limited. The NICU did not participate because they believed that the completion of the questionnaire could be construed as an intrusive activity for parents of critically ill infants.

A total of 88 patients completed the satisfaction tool over the three months. However, 74 (84%) were patients from one site only. The results are not a clear representation of all sites as four sites did not submit any tools. The analysis of the patient satisfaction tool where completed did reveal that the majority of patients treated were completely satisfied with the information provided by the nurse/midwife participant. A more detailed interpretation of these results is limited given the design of the questionnaire and its anonymity.

### 11.8.3 Findings of the Post-Implementation Questionnaire

The findings of the post-implementation questionnaire refer only to the status of the participant, i.e. nurse/midwife, clinical mentor or pharmacist. The responses are not associated with the specific practice areas to maintain confidentiality and because there are no comparisons being drawn amongst the sites. Therefore any comments that could be associated with any identifiable practice setting or nursing/midwifery role have been edited.

**Table 19. Findings of the Post Implementation Questionnaire**

Participant	Questionnaires distributed	Questionnaires returned
Nurse/Midwife	17	15
Clinical Mentor	9	5
Pharmacist*	8	5

\*There was no assigned pharmacist for St Mary's Hospital during the implementation phase

Two pharmacists responded that they had limited involvement with the study and therefore were unable to fully address the questions of the post implementation tool.

### Patient Benefits

The patient benefits of this model of collaborative prescribing using medication protocols were examined in relation to:

- Easier access to treatment
- Provision of holistic care
- More timely treatment for patients and clients.

### Easier Access to Treatment

All nurse/midwife respondents agreed that easier access to treatment was afforded with the use of this prescribing practice model. Some referred to situations where there was no medical coverage available, particularly after 5pm or on weekends. Some participants believed that being able to spend more time with patient and family led to greater access for treatment. One area highlighted was that although the initial treatment was easier for patients, the need for a prescription for continued administration of the medication increased the workload for the nursing staff.

The majority of clinical mentors also said that access was improved. However, one said that it was not applicable as the process of nurse prescribing in this study was fundamentally identical to doctors' prescribing so no difference in access had been identified. Similar to the nurses, the availability of medical cover was also mentioned by mentors.

One pharmacist suggested that, if the medication protocol list was more extensive, then access for patients would be easier, as over-the-counter medications were included in the protocols and this did not necessitate prescribing by the nurse participant. Another pharmacist said that waiting times were reduced for patients, given that the nurse had significant experience and training in this particular setting and was an expert in diagnosing and prescribing the drugs used.

### Provision of Holistic Care

All the nurse/midwife respondents believed that the use of this model enabled them to provide complete care. The assessment, continuous evaluation, and follow-up afforded with this model of prescribing contributed to achieving this outcome. One nurse mentioned that this was especially evident during the night hours and when there was no doctor available. The therapeutic relationship between nurse and patients was improved. An associated benefit mentioned was the greater autonomy that resulted regarding treatment decisions which added to the completeness of care, versus the typical practice of the nurse undertaking the assessment, reporting the findings and suggesting to the doctor what medications would be suitable.

"Being able to prescribe a limited amount of medication is the final piece in the jigsaw of holistic care we give..." (nurse/midwife participant)

The mentors also agreed about this benefit, with one stating that the nurse/midwife participant could complete the episode of care without reference to another practitioner. Another mentor noted that the patient received a better service from the nurse prescriber than may have been possible with a doctor who was unfamiliar with the client's needs.

Some pharmacists said that they thought the model did support the nurses/midwives ability to provide holistic care. Others were either unsure or didn't know. One said: "Yes", but did not concur with the use of the word holistic.

## Improved Treatment Time

Timeliness of treatment is important from both the patient/client and service provider perspectives as it relates to the delivery of quality health care. Being able to provide more timely treatment has been a significant factor in the case for introducing nurse prescribing in other jurisdictions (e.g., UK). The majority of nurses/midwives believed that collaborative prescribing using medication protocols contributed to more timely treatment; one thought that this was not consistently the case but did not elaborate.

Descriptive examples of more timely treatment were provided by a number of nurses/midwives. These included:

- The ability to respond to the patient's symptoms immediately
- Avoiding a delay in care from the doctor due to other demands on their time
- Being able to provide an initial assessment with referral to the doctor to enable a quicker identification of the problem
- Commencement of pain management without delay and not having to wait for the doctor.

Some nurse/midwife respondents mentioned difficulties they had encountered in achieving this benefit. These were:

- Organisational requirements for patient consent at some sites, which could be time-consuming and annoying to the patient, and also increased demands on the nurse
- The protocol construction requiring a complete physical assessment for the patient required additional time and prevented them from prescribing more frequently if they were extremely busy
- The individual medication protocol constructed for use at the pilot site dictated that a full physical assessment of the patient be completed. This requirement was not always applicable or necessary given the patient's clinical situation and it required greater time thus preventing them from prescribing opportunities in using the protocols if they were busy.

"When nurses/midwives can prescribe full time, it will greatly improve treatment time".

Once again, medical practitioner availability was a factor in the perceptions of some mentors as to whether this model contributed to more timely treatment, with emphasis on the after 5pm situation. However it was noted that medical staff were readily available at the site when needed. An associated benefit related to timely treatment was the ability to see more clients in the practice setting.

Pharmacists had mixed views on this patient and service benefit. Some were positive, others did not know if there had been improvements in treatment time, and one said that in particular situations improved treatment times were possible.

## Health Service Provider Benefits

### Better Use of Health Care Team Resources

Most of the nurses and midwives and mentors believed that the use of this model for their practice setting led to better use of the resources of the health care team (see table 20 below).

**Table 20. Participants Views on "Better Use of Health Care Team Resources"**

Participant	Reasons for better use of resources	Reasons why not better use of resources
Nurses and midwives	<ul style="list-style-type: none"> <li>• Doctors had more time to care for sicker patients</li> <li>• Greater communication and teamwork amongst health care staff</li> </ul>	<ul style="list-style-type: none"> <li>• Previous practices were legitimised and therefore part of current situation</li> </ul>
Clinical mentors	<ul style="list-style-type: none"> <li>• Nurse seeing more straight-forward or less complex cases, freeing the doctor to see more complicated cases</li> </ul>	<ul style="list-style-type: none"> <li>• The model contributed to speedier services versus better use of resources</li> <li>• Necessary to reconfigure job descriptions before this could be realised</li> </ul>

The views of pharmacists were not as decisive. Some considered that the model did result in improved resource use; others stated they did not know, with one stating limited involvement in the pilot. Another believed that it was up to the medical practitioner to answer this question. One pharmacist suggested that their own department had an established multidisciplinary approach and this could have made it easier for this health care team compared to other practice settings.

## Greater Use of Nursing and Midwifery Professional Skills

For the most part, nurses and midwives, clinical mentors and pharmacists perceived that the expanded role contributed to nurses and midwives fulfilling the role for which they were prepared and that the professional skills of nurses and midwives were more fully utilised with this prescribing model (see table 21 below).

**Table 21. Participants Views on “Greater Use of Nursing and Midwifery Professional Skills”**

Nurses and Midwives	<ul style="list-style-type: none"> <li>• Scope of practice was expanded for the profession due to increased autonomy</li> <li>• Education and knowledge acquired led to greater development and use of assessment, diagnosis and treatment skills</li> <li>• Skills could be transferred to other areas besides prescribing leading to more holistic care</li> </ul>
Clinical mentors	<ul style="list-style-type: none"> <li>• Experienced educated nursing staff were afforded the opportunity to initiate appropriate treatment in an opportune manner</li> <li>• Nurses/midwives identified an enhancement of their roles as a result</li> </ul>
Pharmacists	<ul style="list-style-type: none"> <li>• Nurses’ clinical diagnostic skills and an understanding of the pharmacological foundation for drug therapies were enhanced through this model.</li> </ul>

## Collaboration

Collaboration amongst the participating health care team was a central focus within the pilot study. Most nurses and midwives were very positive about their experiences of collaboration with the clinical mentor. Comments such as “receiving full support encouraging”, “excellent relationship of trust” and “respect and informative experience” were indicative of this positive feedback and is captured in the following quote from one participant:

“The clinical mentor was an excellent source always inspiring confidence in my ability to assess and prescribe if required. He was there to guide, sort out any problems as they arose, to supervise and support.”

However, some nurse/midwife respondents did not share these positive experiences as their peers. Many said that developing the protocols was primarily their responsibility, with the clinical mentor involved only in the review and approval process. But one said that it was very much a collaborative process and it inspired the view amongst the participants at the site that additional protocol development in the clinical area would be valuable.

Many nurse/midwife respondents mentioned the degree of support (e.g. good, excellent) offered by the pharmacist in the development of the protocols. There were different opinions regarding pharmacists’ involvement in the pilot implementation phase, with some believing that the pharmacist was not a facilitator in this process.

Some mentors said that the collaborative relationship worked well in their practice setting. Others spoke about the nurses’ enthusiasm during the pilot. Formulating the protocols was seen to require a great degree of involvement by the mentors. Some said that their experiences of collaboration with the pharmacists were limited; others were satisfied with the process.

Similar to the doctors, one pharmacist referred to the time devoted to developing and approving the protocols and said that it was interesting to gain knowledge of the practical aspects of the prescribing and administration of drugs as a consequence of the pilot experience. Some pharmacists said that there was minimal to no involvement with the nurse/midwife participants after the development of the protocols. This was not the case for all. One pharmacist stated:

“Very easy to collaborate with the nurse in this department as we both work on the same site and have previously had a good working relationship. We were both previously very aware of each other’s job description/role, which made collaboration easy.”

## Education

Feedback was obtained from participants on their views of the education programme in preparing them for clinical decision-making in the prescribing process, including the requirement for 96 hours or 12 days of clinical instruction as part of the course. As noted earlier, there was a 14-month delay between the provision of the education programme and the start up of the pilot sites. This was referred to by the participants in their responses.

Some nurses/midwives believed they were already practising at an advanced level prior to the education course and that this may have influenced their views as to whether or not the education programme prepared them for this prescribing role. One clinical mentor agreed.

The majority of nurses and midwives stated that the programme did prepare them for this expanded role.

"Both education and experience in practice helped to prepare the clinical decision-making process. The education programme gave a formal structure to a practical art."

Some nurses and midwives said that areas such as assessment and diagnosis could be improved upon, with more practical sessions with junior doctors seen as better resources for teaching clinical skills. One said that there had been an emphasis on a medical model of prescribing and that this could displace the nursing holism required. Some mentioned the complex and challenging issues to be confronted in delivering a programme to a variety of speciality areas.

There were concerns about the need to complete 12 days of clinical instruction with the designated medical practitioner as part of the programme. Most recognised that the time spent was useful in gaining experience and skill with assessment and history-taking, but there were difficulties at service level in scheduling and fulfilling the requirements for these days. These difficulties included the doctor's availability for the instruction. Some nurses/midwives believed that experience should have dictated the clinical time required.

The mentors believed that the nurses/midwives had received adequate preparation. Some suggested that it could be more practical based and that, in the future, the development of modules could be considered, given the wide range of practice areas involved in the pilot study.

Respondents agreed that the competencies for collaborative prescribing developed for the pilot study had been effective. But one nurse/midwife said that the nurse's holistic approach should be the point of emphasis. A number of nurses/midwives and mentors mentioned the benefits of the competency framework, such as providing a formal structure to support learning, and assisting in personal reflection and evaluation. These were seen to encompass all the issues relevant to the prescribing process for the nurse. Some nurses/midwives said that they were already employing many of these competencies for advanced practice in their present roles.

### Structure and Process of the Model

Nurses/midwives, clinical mentors and pharmacists were asked to comment on any advantages and disadvantages of this model for their practice settings. Many of the advantages cited have been presented previously under the themes of patient and health service benefits (e.g. greater access for patients/clients, holistic care). Additional advantages of using this model included:

- It allowed for the development of the scope of practice of the nurse/midwife
- Greater consideration of non-pharmacological interventions
- Improved job satisfaction
- Enhancement of nurse/patient relationship
- Greater accountability of care
- Demonstrated evidence of advanced practice to doctors, which benefits the nursing and midwifery professions
- It used a structured approach making it easy to be implemented in practice
- It was seen to be safe and convenient.

One mentor stated that the model led to better time management of nurses and doctors, as it increased the availability of prescribing when required for treatment for predicted complaints of therapy. Support for the model was evident in the following quote from one mentor:

"In general, the nurse's prescribing powers (limited) were welcomed by other multidisciplinary team members...Perhaps [giving]limited prescribing powers to all nurses (who receive appropriate education) would lead to better medication management and patient care."

One pharmacist said that the presence of other prescribers always being available for advice and support in the use of this model was a benefit.

On disadvantages, the implementation of the model was seen to be time consuming in relation to:

- Protocol development
- Educating patients about the study and gaining their consent to participate
- Requirements for full physical assessment and history-taking (as outlined in the specific medication protocol)
- Documentation of care and the paperwork involved.

Some said that the model would have had greater usefulness if the treatment options had more flexibility.

Others mentioned local restrictions as to where the model could be introduced (e.g. not in community settings). Others suggested that a model which provided more independence in treatment planning would allow for more efficient use of resources and improve service users' satisfaction. The restriction of other nurses/midwives not being able to continue the administration of the medication after the protocol was initiated by the participating nurse/midwife was identified as a shortcoming of this model. Some nurses/midwives believed that this resulted in undermining their role and increased the workload of the staff. They were concerned that, if the model was restricted to only selected individuals, deskilling of staff could occur.

## Summary

The pilot site study of collaborative prescribing by nurses and midwives utilising medication protocols was unique in its design and implementation. This model was devised to allow for a collaborative form of limited prescribing. A diversity of health care sites (nine in total) participated, with nurses and midwives of various educational and clinical experiences. The RCSI educational programme was founded on the medication protocol framework and the competencies for collaborative prescribing. The medical practitioners acting as clinical mentors or independent verifiers and the pharmacists were important in providing the necessary support and resources for the nurse/midwife during the pilot. The results of the clinical decision-making audit tool and the questionnaire analysis of the participants' perceptions demonstrate that nurses and midwives were competent in their abilities to employing a model of collaborative prescribing, dependent on locally devised medication protocols. Patients were seen to be satisfied with the information they received from the nurse/midwife about their medications, with 94% completely satisfied.





# Section 4

## DISCUSSION AND RECOMMENDATIONS



## Section 4 - Outline of Content

**Chapter 12** presents the themes emerging from the previous chapters on the literature review and project activities. The themes are: models of prescribing, identification of the need for the expansion of medication management practices of nurses and midwives, the associated benefits of nurse/midwife prescribing for service users and service providers, and the implications for introducing these practices.

**The Recommendations of the Steering Committee** conclude the final section of this Review. The five recommendations and their supporting actions have been approved by the sponsoring bodies, An Bord Altranais and the National Council, and reflect the outcomes of the extensive scope of this Review.

# CHAPTER 12

## Discussion

### 12.1. Introduction

This Review has examined the various influences on the expansion of nurses' and midwives' practices of medication management in Ireland, including the introduction of nurse/midwife prescribing. Chapters 1 through 6 focused on these influences and included:

- The international experiences of prescriptive authority for nurses and midwives
- Significant outcome studies for nurse prescribing
- The developing roles of nurses and midwives in Ireland
- Irish health care policy and legislation relevant to an expanded scope of practice for medication management for nurses/midwives
- The professional guidance provided by An Bord Altranais.

The project activities undertaken as part of the Review are presented, with their findings, in Chapters 7 through 11. These activities involved:

- Medication management seminars – focus group discussions
- A needs assessment survey with nurses and midwives
- Exploration of the need for nurse and midwife prescribing questionnaire with stakeholders
- Establishment of the medication management enquiries database
- Revised guidelines to nurses and midwives on medication management
- A pilot study - that evaluated the effectiveness of nurses and midwives collaboratively prescribing using medication protocols.

This final chapter is structured around the themes that have emerged from the literature review and the outcomes of the project activities. These are:

- Models of prescriptive authority
- Identifying the need for expanded medication management practices by nurses and midwives, with an emphasis on prescriptive authority
- Associated benefits of prescribing by nurses and midwives for:
  - Service users/patients and clients
  - Service providers
- Implications for the introduction of nurse and midwife prescribing and expanded medication management practices.

### 12.2. Models of Prescriptive Authority

Internationally, various models of prescribing by nurses and midwives have been introduced and, in this Review, these have been broadly categorised into three types: independent, collaborative and protocols (Buchan & Calman, 2004; McDermott, 1995; Nolan & Can, 2001; New Zealand Ministry of Health, 1997; Poulton, 1994; Snell, 1999). These models were examined in considering the introduction of prescriptive authority for nurses and midwives. The use of medication protocols is recognised as an expanded medication management practice (not necessarily prescribing) in other countries, albeit different terms are used to describe them. Examples include patient group directions (PGDs) in the UK, Health Management and Drug Therapy Protocols in Queensland,

Australia, standing orders in New South Wales, Australia and New Zealand, and medical directives in Canada.

The Review also studied the supply and administration of over-the-counter (OTC) medications as an element of expanded medication management practices.

Although there are defined individual features of each prescribing model, they also share elements of the prescribing process. These centre around the degree of decision-making for diagnosing the health condition of the patient, the autonomy of the individual's scope of practice and the authority for determining the appropriate medication and/or treatment plan. This is especially true of the independent and collaborative prescribing practices.

There are differences in the responsibilities of the nurse/midwife and the educational preparation and regulations required for independent or collaborative prescribing authority due to legislation and professional regulation in individual countries. Legislation and health service policies may also dictate the use of medication protocols. It is important to acknowledge these points when deliberating the significance of the Review's findings and determining their influence on the direction for expanded medication management practices for nurses and midwives in Ireland.

The models of prescriptive authority (independent and collaborative), the use of medication protocols, and supplying/administering over-the-counter medications were debated by nurses and midwives within the focus group discussions and the needs assessment survey. The exploration of need questionnaire distributed to key stakeholders provided a description of the independent and collaborative models to assist respondents in considering the international practices and their possible adaptation for use in the Irish health care system. Many stakeholders also considered protocol use and OTC administration as possible areas for practice development for nurses and midwives.

The pilot study used a practice model linking collaborative prescribing with the use of medication protocols. This allowed the participating nurses and midwives to supply a named medication to patients/clients (without an individually-written prescription by the medical practitioner) according to a defined protocol. The nurse/midwife clinical decision-making in using the protocol was assessed as it related to the prescribing process (e.g. assessment, diagnosis, treatment planning, monitoring).

During the course of the Review, the Project Team became aware through communication and enquiries that nurses and midwives use medication protocols and other similar methods (e.g. standing orders) of supplying medications to a patient or groups of patients as part of current medication management practices in both hospital and community settings. Nurses and midwives also administer OTC medications without written instruction by the medical practitioner to meet the needs of service users. These practices have evolved over time, with varying degrees of support and structure provided by the regulatory body, the health service and employers.

### 12.3. Identifying the Need for Nurse/Midwife Prescribing

The Project Team has presented to nurses, midwives and other key stakeholders the various forms of prescribing that have been implemented internationally. These international experiences and prescribing practices illustrate the different paths that many countries have taken in granting authority to nurses and midwives to prescribe. Extending prescriptive authority to professionals outside of the medical profession has facilitated the objective of meeting the health care needs of both individuals and society. This is evident from the experiences of a number of selected countries presented in Chapter 2 and the outcomes studies presented in Chapter 4. This information and current knowledge has helped to direct the focus of this Review in identifying the need for nurses and midwives to prescribe in Ireland.

This Review has examined the general need for prescribing and has considered which models of prescriptive authority should be initiated and where they should be introduced (e.g. practice settings) in the Irish health care system. These two key points have been deliberated by nurses, midwives, other health care professionals, patient organisations and various other stakeholders. Their views are presented and specific issues highlighted.

Within the focus group discussions, support was shown for nurse/midwife prescribing. Various reasons were put forward. Some believed that it would validate the current medication management practices of nurses and midwives. Others made reference to making prescribing decisions but requiring sanction by the medical practitioner to write the actual prescription. Other reasons for introducing prescribing captured present concerns and included time-wasting, with the nurse/midwife waiting for the doctor to become available to write the prescription, and delays in treatment for patients/clients. These situations were seen to result in less than optimal patient/client care, frustration for nurses and midwives and an under-use of their expertise. These sentiments are similar to those expressed by nurses working in other countries that did not have prescriptive authority (Jones, 1999; Ogilvie, 1999).



Medical manpower shortages as a primary impetus for the introduction of prescriptive authority for nurses and midwives was debated in all forums of the project activities. It is a topical matter in relation to implementing the European Working Time Directive and recognition of the decreasing numbers of general practitioners working in Ireland. This corresponds to the international experiences of nurse prescribing as it has been introduced in areas underserved by the medical profession and as a result of diminishing numbers of doctors particularly in the primary care setting (Buchan & Calman, 2004; CNA, 1993; DoH, 1999; Towers, 1999).

Key stakeholders responding to the exploration of need survey identified that the European Working Time Directive was a consideration for the introduction of prescribing by nurses and midwives. However, the results of the needs assessment survey of practising nurses and midwives illustrated that many did not see a lack of medical practitioners in their practice settings as a reason for prescribing. Conversely, a number of doctors and nurse/midwife respondents answering the pilot study post implementation questionnaire commented about the difficulties in ensuring the availability of doctors. This influenced their support for expanded medication management practices by nurses and midwives in their pilot areas. Some respondents of the exploration of need survey believed that limited medical practitioner availability could be a factor for implementing nurse/midwife prescribing, especially in rural remote areas, and for the delivery of pre-hospital emergency care. Patients/clients would be afforded improved health services as accessibility for medication management would also be improved.

The emergence of nurse-led and midwifery-led services which have been advocated within current health care policies, will require greater expansion of responsibilities in managing patients and clients. This also supports the introduction of prescriptive authority, as does the increased specialisation of nurses and midwives, especially in the development of clinical career pathways for the CNS and ANP, (roles supported by the Government) (DoHC, 2003b; MWHB, 2003).

Organisations that took part in the exploration of need survey recognised that nurses and midwives were already working in expanded roles and many were in advanced practice within CNS and ANP posts. Some pilot site participants said that there were limitations in using the medication protocols and that greater autonomy was sought for prescribing. The findings from these project activities regarding the increasing specialisation and advancement of Irish nurses and midwives and the debate on prescribing are in general agreement with the international experiences reported in Chapter 4, where specialised nurses and midwives (particularly nurse practitioners) sought prescriptive authority to be better equipped to meet patient and client need (Biester & Collins, 1991; Mayes; 1996; Towers, 1999).

Focus group participants differed about which prescribing model they preferred for their practices. Some said that protocols and the initiation of OTC medications could meet their needs. Others said that prescribing might be necessary for some and that this authority should be determined by their scope of practice. A number also advocated a collaborative approach for implementing prescriptive authority for nursing and midwifery. However, with these various views on the models of prescribing, there was no clear decision from the focus groups, as to which practice areas should be considered for its introduction.

The needs assessment survey put more focus on the actual models of prescribing and their association with practice areas in order to gain detailed insight of the views of nurses and midwives for the extension of prescriptive authority. Generally, the greater number of direct (48%) and non-direct (68%) care providers favoured a collaborative model. A number of demographic variables influenced the model selected by direct care providers. These variables were:

- Current position
- Working in a collaborative environment
- Practice setting
- Geographical area
- Highest post registration academic qualification attained.

Those working in CNS positions looked for a model of prescribing that allowed them autonomy in their practice. Public health nurses and midwives also saw the need for an expanded role to include independent prescribing. These three positions could be seen as roles where individual practitioners manage care in a more independent autonomous manner than other nurses, due to the nature of their responsibilities for their scope of practice.

Nurses practising in medical/surgical settings showed strongest support for the protocol model. This may be due to the better availability of medical practitioners in the acute care hospital setting versus other care areas. Geographical location was an influence, with those working in the West of Ireland choosing the independent model. Again, doctor availability in this area could explain this finding. The medication management difficulties faced by nurses working in remote and island areas in the West had been pointed out to the Project Team through communication and enquiries as part of the Education Department Enquiries Database.

Participants who believed that the independent or collaborative model was more appropriate for their needs said that working in a collaborative environment influenced their opinion. This may suggest that prescriptive authority requires additional partnership than may be required for protocol use, particularly in establishing relationships with medical practitioners and other health care professionals for the responsibility of this practice. However, 31% of direct care respondents identified that the protocol model was the one most needed in their practice setting, lending support to expanding this method of medication management. It could be construed that the protocol allows the supply of the medication without a direct intervention by the doctor, this being one of its main benefits.

Respondents who had a master's degree were more likely to opt for the independent model of prescribing. Those who had not sought additional post-registration qualification were more likely to say that they did not need to prescribe using any model. (Seven percent of all direct care provider respondents said they did not require prescribing or protocol use for their practice.) This points to the influence of additional education (which may be linked to expanded and advanced clinical practice) for nurses and midwives determining their need for prescribing. It also corresponds to the international experiences for nurse prescribing which typically has been introduced at the academic level of master's degree (Hughes & Lockyer, 2004; New Zealand Ministry of Health, 1998; Towers, 1999).

An additional finding of the needs assessment survey related to the medication categories selected by those identifying the need to prescribe. Nurses and midwives selected medication categories that were typical for their own scope of practice and care setting (See Appendix 5). This demonstrated that they recognised the importance of their own competence and responsibility for appropriate prescribing. This reflects the influence of the scope of practice of international nurses and midwives in their authority to prescribe medications relevant to their practice and speciality.

The exploration of need survey was not specifically constructed to ask organisations to determine which model would be appropriate for the Irish health care system. But some offered their views, with most stating their preferences of one model over another, with collaborative prescribing being more favoured. Others believed that the authority to prescribe could be implemented using both independent and collaborative approaches. Some offered an alternative model involving collaborative practice directed at a much broader scope of care by nurses, and not only limited to expanded medication management.

A number of organisations thought that agreed protocols were suitable for the medication treatment planning in the case scenarios presented, employing a limited number of drugs. They mentioned the positive developments for the use of medication protocols (or similar structures) that have been instituted internationally. Clearly, there was no consensus regarding the various forms of prescriptive authority that could be initiated in the Irish health services and some suggested a need for additional discussion and consideration of these matters.

The pilot study utilised medication protocols as a model of collaborative prescribing and, for some participants, this was suitable for meeting patient/client needs in their practice settings. Others identified limitations of this model for their sites, noting that treatment options were restricted by the very nature of the protocol. Through the study's clinical audit process, conducted by the medical practitioners, nurses/midwives overwhelmingly demonstrated their decision-making competence in the use of this model.

The supply and administration of OTC medications has also received attention. Previous to this Review, the views of nurses and midwives about advising and/or supplying patients and clients with OTC medications were captured in the consultative forums of the *Report of the Commission on Nursing* (Government of Ireland, 1998) and the *Scope of Nursing and Midwifery Practice* (An Bord Altranais, 2000a). In the process of preparing this Review, many nurses and midwives said that they had sought clarification from their regulatory body that this medication management practice was sanctioned.

The focus group participants said, without exception, that the initiation of OTCs was the most critical prescribing need in all practice settings, including both hospital and community settings. Frustration at not being able to do so for their patients was prevalent amongst all groups. Some suggested that authority should be given to nurses and midwives to supply OTC medications as an advancement in treatment planning and care.

The results of the needs assessment survey in relation to the drug categories selected by those identifying the need to prescribe shows that many items may well be listed as OTCs that do not require a doctor's prescription. Vitamins, laxatives, antacids, and non-steroidal anti-inflammatory agents were the most selected drugs needed by nurses and midwives for their practices. Within the pilot study, some sites included OTC medications for protocol development and use. These two facts point to the necessity for nurses and midwives to be able to supply/administer these non-prescription medications to individuals as part of their overall care. This practice should be supported by stakeholders in the pursuit of improving services to patients and clients.

## 12.4. Benefits Associated with Nurse/Midwife Prescribing

Recognition of the potential benefits of nurse/midwife prescribing for both patient/client and service providers emerged from the project findings. Some of these benefits may also be seen as rationales for introducing prescriptive authority. The benefits put forward by those participating in the project activities (e.g. nurses/midwives, patient representatives, medical practitioners, pharmacists, health care managers) were presented in detail in earlier chapters and are summarised in table 22.

**Table 22. Benefits Associated with Nurse/Midwife Prescribing**

Patient Benefits	Nurses & Midwives Benefits	Service Benefits
Convenience and greater accessibility for patients	More autonomous role	Less hospital admissions, especially through A&Es
More timely treatment	Increased empowerment	Better use of resources of health care team
Information provision	Greater career satisfaction	Allocation of health care staff to sicker individuals
Improved medication compliance	Improved clinical relationship between nurses and doctors	Expedited discharges from hospital and clinic
Better medication management	More effective use of nurses' time	Potential decrease in GP visits
More frequent review of medications	Enhanced clinical decision-making skills	Improvement on quality of care realised through: <ol style="list-style-type: none"> <li>1. Enhanced case management</li> <li>2. More holistic approach</li> <li>3. Safer care delivery</li> <li>4. Improved communications</li> </ol>
More person-centred approach	Greater partnership with patients	Cost savings from less dependency on health care services
Patient satisfaction	Less stressful work	
Safer patient care	Legal clarification of current grey areas of practice	
Fewer pharmacological interventions	Professional development enhanced	

As the pilot study utilised a model of collaborative prescribing with the use of medication protocols, the benefits perceived by the participants may also be considered for the protocol model. The outcome studies on nurse prescribing evaluated in Chapter 4 showed that many of these benefits have been achieved elsewhere. They can be summarised as follows, with the various studies linked with these themes:

- Appropriate and safe prescribing (Anderson, Gillis & Yoder, 1996; Cox & Jones, 2000; Cox, Walton & Bowman, 1995; Mayes, 1996; Spitzer et al., 1974)
- Patient satisfaction (Horrocks et al., 2002; Kinnersley et al., 2000; Myers, Lenci & Sheldon, 1997; Shum et al., 2000;)
- Convenience and greater accessibility for patients (Luker, 1997; DoH 1989, DoH, 1991; DoH 1999)
- Nurses as information providers (Brooks, 2001; Cooper et al., 2002; Luker et al., 1997)
- Improved medication compliance by patients (Brown & Grimes, 1995; Nolan, Carr & Harold, 2001; Office of Technology Assessment, 1986)
- Fewer pharmacological interventions by the prescribing nurse (Mahoney, 1994)
- Better clinical decision-making by the nurse prescribers (Avorn, 1991; Hamric et al., 1998).
- Cost-effectiveness (Ferguson et al., 1998; Netten & Knight, 1999; Venning, 2000)

Many of the above studies involved nurses working in advanced practice positions (e.g. nurse practitioner), and prescribing was not the only outcome examined.



The exploration of need survey asked stakeholders which health care settings would benefit from nurses and midwives prescribing. This broad question links in with the previous discussion about the general benefits as it is important to determine the service or practice areas that could most profit from this initiative. Many said that most, if not all, health settings would benefit.

Responses ranged from general settings (e.g. hospitals, community care) to more specific areas of practice (e.g. anaesthetics). Members of each stakeholder class highlighted the benefit of nurse/midwife prescribing to primary care settings. Some groups listed particular service areas (e.g. care of the elderly hospitals, mental health, hospice, prison services and women's health). Accident and Emergency (including triage and minor injury) and palliative care were frequently suggested locations. Definitive health conditions such as diabetes, wound care, depression, asthma and pain management were also cited.

During the course of this Review, the Project Team has found that midwives employed as independent practitioners who do not have authority to prescribe face particular challenges in providing care to women. This is especially important in providing holistic maternity and perinatal care through the stages of pregnancy, labour, birth and puerperium. Prescribing authority would enable independent midwives to offer a complete service to their clients without needing to refer to medical practitioners for the sole purpose of obtaining a required medication.

Current health care policies reflect the government's commitment to improving the delivery of care through reconfiguration of existing services and by introducing new ones. Services such as the establishment of nurse-led and midwife-led clinics, multidisciplinary primary care centres, triage centres, and supporting autonomous practitioners (e.g. independent midwives, ANPs) greatly assist the needs of patients/clients. In the context of these service developments, nurse/midwife prescribing can achieve the benefits and health outcomes envisioned by many of the participants of the Review's activities which have been demonstrated internationally.

## **12.5. Implications for Expanded Medication Management Practices Including Prescriptive Authority for Nurses and Midwives**

During the course of this Review, individuals and organisations gave their views about the implications and the resources necessary for nurses and midwives to expand and advance their medication management practices, primarily for prescriptive authority (and to a lesser degree with medication protocols usage and OTC medication administration). Three main areas are discussed: legislation and professional regulation, collaboration, and education. The required support by health service organisations closely linked with these three areas is also examined.

### **12.5.1 Legislation and Professional Regulation**

Although the laws governing medicinal products, prescriptive authority and other expanded medication management practices may differ from one country to another, a common denominator has been the extensive review and revision of legislation to provide the necessary legal and professional regulatory structures to implement these initiatives. The introduction of prescriptive authority for nurses and midwives in Ireland must be supported by legislation and professional regulation, and many individuals and organisations involved in the delivery of health care services and recipients of care have called for the necessary changes to be made in the medicinal products legislation and associated regulations.

Current Irish medicinal products legislation gives prescriptive authority only to doctors and dentists and not to nurses and midwives. This authority is contained in the *Medicinal Products (Prescription and Control of Supply) Regulations 2003*. A review and subsequent enactment of all relevant primary and secondary legislation is required to extend this authority to nurses and midwives. Account must also be taken of the activities of pharmacists dispensing medications, and a nurse/midwife administering medications that have been prescribed by an authorised nurse or midwife.

Specific consideration of the *Misuse of Drugs Acts* and Regulations is also required for nurses/midwives to prescribe controlled scheduled drugs. As previously described, there are provisions in these Regulations for midwives providing community-based maternity services to have in their possession or to administer medication which contains Pentazocine or Pethidine without an individual prescription from a medical practitioner. However, this authority is both limited and outdated in relation to the current midwifery practices of pain relief. The *Guidelines for Midwives* is being revised by An Bord Altranais at present and midwives requested that this particular point be examined within the course of this Review.

This Review has itself initiated the commencement for reviewing the legislative process in recognising the expanding responsibilities of nurses and midwives. The Department of Health and Children recently examined current medicines legislation as it related to present practices of medication management at the request of An Bord Altranais and the National Council. The Department reviewed the *Medicinal Products (Prescription and Control of Supply) Regulations of 2003* in consideration of the use of medication protocols for the pilot study. As part of its review the Department, sought the advice of the Attorney General who determined that these Regulations did not apply to hospitals. The Department stated that the responsibility for medications procedures and controls rested with individual hospitals and their managements. (This does not apply to controlled scheduled drugs regulated under the *Misuse of Drugs Acts*). This information allowed for the implementation of the pilot study in the designated sites and provided clearer direction for medication protocol use in hospitals by nurses and midwives. Community settings were not examined at this point and this has implications for those practising in the community in relation to controls of medications.

A constant theme raised by the nursing and midwifery professions in this Review was the necessity for legal authority and clarification for their medication management practices. Many nurses and midwives who endeavour to meet the health care and medication needs of patients and clients feel compelled to consider actions that may extend beyond the present legal professional boundaries.

Focus group participants acknowledged that questionable legal practices were occurring in order to provide care to their patients. They recognised the risks associated with these methods and desired legal clarification. In the needs assessment survey, 67% of nurses and midwives strongly agreed with the statement, '*It would provide legal clarification of my current practice*'. Interestingly, those who selected the independent model of prescribing for their practices were most in agreement with this statement.

The exploration of need survey highlighted the necessity for revising current medicinal products legislation in order to extend prescriptive authority to nurses and midwives. Some organisations referred to the need for regulations for controlled scheduled drugs prescribing and administration. Many coupled legislative change with the need for An Bord Altranais to introduce additional guidelines and/or regulations to enable nurses and midwives to competently expand their medication management practices.

International experiences of nurse and midwife prescribing demonstrate the importance of proper development of standards (in addition to medicines legislation) by the professional regulatory body for nurse and midwife prescribing for this expanded scope of practice. Other countries have adopted various regulations to ensure that nurse and midwife practitioners are qualified to prescribe for patients and clients. These include establishing competency frameworks for prescriptive authority, either separately (National Prescribing Centre, UK), or as part of an advanced practice model (Nursing Council of New Zealand, National Council of State Boards of Nursing and National Organisation of Nurse Practitioner Faculties, US). The UK has instituted distinct registration, separate from the general registration process, for nurses qualified to prescribe. Queensland provides an endorsement on the individual's license for use of HMPs and DTPs. The US and New Zealand grant an additional licensure within an advanced practice registration. In New Zealand and many parts of Canada, prescriptive authority for midwives is integral to their education and status as registered midwives.

The establishment of competencies and standards for prescribing are paramount to ensuring the educational preparation and continued competency for nurses and midwives with prescriptive authority. Competencies promote the recognition of the accountability and responsibility of the practitioner to maintain the standards of practice approved by the regulatory body. A competency framework provides an assessment measurement that extends beyond nursing and midwifery. It promotes an understanding and appreciation by others of the performance requirements for prescribing. The framework can also assist in establishing the trust of the public and other health care professionals and ensure a mechanism of safety and quality assurance. The competencies that were developed for the pilot study may serve as a template for future developments in nurse and midwife prescribing.

The supply and administration of medicinal products using medication protocols by nurses and midwives require a firm legislative basis and guidance for their use. Specific legislation for medication protocol use, particularly in community health care settings, is needed to enable safe and appropriate practices to continue and advance. The experiences of other countries in the establishing the legal authority for medication protocol use illustrate the need for such a regulatory structure.

An Bord Altranais plans to provide guidance for the use of medication protocols through the revision of *Guidance to Nurses and Midwives on Medication Management*. The medication protocol framework that was developed, tested and evaluated as part of this Review will be revised to provide additional guidance to the professions to assist them in collaboration with medical practitioners (and others) in the development and use of medication protocols in all care settings where appropriate.

The supply/administration of non-prescription OTC medications by nurses and midwives has been recognised as a significant factor in alleviating perceived difficulties in caring for patients/clients across the health care continuum. This activity should be incorporated within their scope of practice. Again, the guidance document can provide guiding principles and key points to assist in determining scope of practice.

### 12.5.2 Collaboration

The literature has shown that, in order for the expansion of prescriptive authority to nurses to be successful, the medical, pharmacy, and nursing/midwifery professions must collaborate (Humphries & Green, 2000; Latter & Courtenay, 2004; Nolan et al., 2001). The focus groups also highlighted the need for collaboration. Nurses working in the community mentioned the need for support from general practitioners regarding prescribing.

In the needs assessment survey, there was overwhelming agreement from nurses and midwives that collaboration and support would be needed in implementing their chosen prescribing models. Ninety seven percent agreed with the statement, *"The support of the medical profession would be important for implementation of the model I have chosen"*. This doubtless reflects the fact that prescribing is currently the responsibility of doctors and their support would be crucial in renegotiating professional boundaries.

Eighty three percent agreed that *"Collaboration between nurses/midwives and pharmacists in my practice area would be necessary for the model I have chosen"*. The somewhat lesser level of agreement may indicate limited relations between the respondents and pharmacists in their care settings, as not all practice settings may have a clinical pharmacist as a key member of the multidisciplinary health care team. It may also relate to the perception of autonomous practice and responsibility for prescribing. However those that choose the protocol model for their practices were more in agreement with the need for pharmacy support than those who favoured the other two prescribing models. This could be attributed to the very definition of protocols presented in the survey, which identified the input of pharmacists for protocol development.

In total, 95% agreed with the statement, *"Collaboration between nurses/midwives and doctors in my practice would be necessary for the model I have chosen"*. Those who chose the collaborative model were more in agreement with this statement than those who identified the independent or protocol model for their practices. These differences could be expected owing to the amount of collaboration required for each of the models themselves, where one might expect greater cooperation between the nurse/midwife and doctor using the collaborative model.

Internationally, legislation and/or professional regulation may dictate the requirements of collaboration such as a supervision agreement between the nurse prescribing and the doctor, or co-signature of the prescription by the doctor for collaborative prescribing. These criteria were presented definitions provided in the survey. This may have influenced the respondent to answer positively with the above statement regarding the need for collaboration. Whilst it is a necessity for protocol development, the degree of collaboration required in the daily use of medication protocols might not be envisaged as great as that for the collaborative practice of prescribing.

In the exploration of need survey, stakeholders said that the support and collaboration of other health care professionals were critical to the success of introducing prescriptive authority for nurses and midwives. Some believed that inter and intra professional boundaries existed and perceived that threats to roles could arise. Therefore, creating avenues of collaboration, sharing of information and education amongst the multidisciplinary health care team would be paramount.

The experiences of participants in the pilot study demonstrated the importance of collaboration. The perceptions of collaboration varied amongst the nurses/midwives, doctors and pharmacists, and may have contributed to the individual and overall satisfaction of participants with the use of this model of collaborative prescribing in their practice settings. Those respondents answering positively about their collaboration tended to be more satisfied with their experiences than those who did not. However, this could be attributed to other influencing variables not studied in the pilot (such as years of experience of practitioners, managerial and administrative support).

### 12.5.3 Education

Nurses and midwives will need additional education to acquire the competence in knowledge and skills in medication management involving administration of OTC medications, use of medication protocols and, most notably, prescriptive authority in order to do so safely and effectively. Internationally, such educational programmes are typically delivered at a post-registration level, with many built into a master's degree or higher diploma curriculum (American Academy of Nurse Practitioners, 1998; College of Nurses of Ontario, 2005; Department of Health Western Australia, Office of the Chief Nursing Officer, 2003; Nursing Council of New Zealand, 2001). Alternative models include many pre-registration midwifery education programmes that incorporate prescribing as part of their curriculum, as well as the UK experience that prepares nurses and midwives for independent and supplementary prescribing by a modular educational programme.

This Review examined the issue of educational provision for prescriptive authority. Nurses and midwives taking part in the focus group discussions and the needs assessment survey had a range of views, as did organisations who answered the exploration of need survey.

The literature shows a similar divergence. Hemingway et al., (2001), in their study involving community mental health nurses (CMHN), found that most of them expressed the need for training, both at pre-registration and through a separate post registration course. McCann and Baker (2002) in Australia examined the implications of the CMHN in a nurse practitioner role. Those in favour of having the authority to prescribe said that it should be embedded within their scope of practice and education should be part of a postgraduate course. Ogilvie (in Jones, 1999) asked survey respondents what they would consider to be the minimum level of education required for a practice nurse to prescribe. Most responded that two or more qualifications/levels of education should be the minimum criteria. The most frequently mentioned choice was a registered general nurse at degree or diploma level with extra qualifications in their speciality and who had undergone a prescribing module.

In the needs assessment survey, when asked what education would be necessary for nurse/midwife prescribing, the majority of respondents chose a preparatory module for prescriptive authority (for both independent and collaborative practices). The next most selected qualifications were the higher diploma/postgraduate diploma, followed by the master's degree for the independent model and the certificate for the collaborative model. The choice of a preparatory module might be explained by respondents' awareness of the UK requirement of a modular course for prescribing. Delivery of a standalone module may have been seen as advantageous for their own expanded practices as it did not require an additional academic qualification (e.g. higher diploma or master's degree).

In the needs assessment survey, those most in favour of independent and collaborative prescribing practices were the clinical nurse specialist, public health nurse, and midwife. These professionals have already undergone extensive education for their current roles and so they might not have seen the need for further education outside of a singular module of study.

Although the question of educational preparation was not specifically asked in the exploration of need survey, some organisations proffered their opinions. Some linked the academic qualification of a master's degree for ANPs and higher diploma for CNSs with granting these groups the authority to prescribe. Others acknowledged the common international educational standards established with reference to master's degree. Increased pharmacology knowledge, skills of assessment, history-taking, diagnosing patients and the decision-making for treatment planning were seen as prime academic requirements. Competence in prescribing should be assured by continuous education and professional development, noted respondents.

Considerations for the educational preparation for Irish nurses and midwives regarding prescriptive authority are broad. Firstly, the criteria for prescribing must be established in order to create an educational framework to support this expanded practice. This will require defining the scope of practice for which prescriptive authority will be granted. In other countries this is typically written into the nurses practice act or is referred to as a responsibility of the nursing regulatory body if not expressly defined.

An Bord Altranais is responsible for defining and maintaining the standards of nurse and midwife education. This is provided for under the *Nurses Rules 2004*. Accreditation of postgraduate nursing and midwifery education programmes is the domain and responsibility of An Bord Altranais. The requirements and standards for education and training programmes for prescriptive authority should be developed by An Bord Altranais based upon the necessary legislative changes.

Both the nurse/midwife and health care organisations should determine the educational resources required for nurses and midwives involved in expanded medication management practices of medication protocols and the OTC medication supply/administration by nurses and midwives. Additional education, if required, should be based on the competency of the individual practitioner, practice setting, and health service provider requirements and policies.

Legislation, professional regulation, collaboration and education are all central to expanding the scope of practice of medication management for nurses and midwives and the support of health service organisations is critical to the successful initiation and continuation of these practices. The responsibility for the procedures and controls that are applicable to medications rests with the individual hospital and therefore policies and structures should be devised in association with any legislative and regulatory changes initiated along with guidelines provided by An Bord Altranais for medication management. Issues of responsibility and accountability of the individual practitioner and the health care organisation need to be examined.

The creation of medication management policies for health service providers and organisations for expanded practices (which may include where appropriate, prescriptive authority, medication protocol use and supply/administration of over-the-counter medications) is critical for a variety of reasons:

- To protect the public/service user through safe and quality practices
- To detail lines of responsibility for both the nurse/midwife and service organisation
- To give guidance on best practices involving medication management
- To develop and support multidisciplinary teamwork.

The provision of resources by health care organisations should be associated with the development of these policies particularly in relation to medication protocols. Resource allocation should focus on:

- Enabling nurses, midwives and members of the multidisciplinary health care team to devise and implement medication protocols based upon patient need
- Education and training needs of nurses and midwives involved in the use of protocols
- Developing review and audit processes as part of quality assurance and risk management programmes to evaluate medication protocol use.

# Recommendations of the Steering Committee

## Recommendation 1: Continuation of the Use of Medication Protocols

The use of medication protocols (other than for controlled drugs under the *Misuse of Drugs Acts*) within hospitals is recognised by the Department of Health and Children as an established practice of medication management. The use of such protocols should continue to be developed and supported.

### Action 1.1: Professional guidance

An Bord Altranais will revise the current *Guidance to Nurses and Midwives on Medication Management* (An Bord Altranais, 2003) to incorporate the medication protocol framework that was developed tested and evaluated as part of the project<sup>8</sup>.

### Action 1.2: Health service provider responsibility

Provision should be made by health service providers for the development and implementation of medication protocols in hospitals<sup>9</sup>. As the responsibility for the procedures and controls that are applicable to medication protocols rests with the individual hospital, it is important that local policies are devised to support the development and implementation of any medication protocols for patient/client care.

Provisions should be made:

- to enable nurses, midwives and members of the multidisciplinary health care team to devise and implement medication protocols
- to enable the education and training of nurses and midwives involved in the use of such protocols
- to disseminate information to all members of the health care team regarding organisational policies underpinning the use of medication protocols
- to establish review and audit processes to evaluate the use of medication protocols as part of quality assurance and risk management programmes.

## Recommendation 2: Expansion of the Use of Medication Protocols

It is recommended that an explicit legislative basis be provided for the supply and administration of medicinal products using medication protocols by nurses and midwives in hospital and community settings.

## Recommendation 3: Supply and Administration of Over-the-Counter Medications

Nurses and midwives should be enabled to supply and administer over-the-counter medications to patients and clients in accordance with their competence and within their scope of practice and supported by medication protocols where appropriate.

<sup>8</sup>See appendix 7 for the medication protocol framework used in the pilot study. It will be revised for the purpose of the guidance document.

<sup>9</sup>Hospital is defined as clinic, nursing home or similar institution (Medicinal Products (Prescription and Control of Supply) Regulations 2003, Statutory Instrument 540 of 2003).

**Action 3.1: Professional guidance**

An Bord Altranais will revise the current *Guidance to Nurses and Midwives on Medication Management* to incorporate guidance for the professions to supply and administer over-the-counter medications.

**Action 3.2: Health service provider responsibility**

Provision should be made by the health service provider for the development and implementation of policies to support the supply and administration of over-the-counter medications by nurses and midwives in health care settings. The provisions as detailed in Action 1.2 should also be made available for this action involving over-the-counter medications.

**Recommendation 4: Prescriptive Authority**

Prescriptive authority should be extended to nurses and midwives, subject to regulations under the relevant legislation by the Minister for Health and Children and regulation by An Bord Altranais.

**Action 4.1: Legislation**

A review and subsequent enactment and/or amendment of all relevant primary and secondary legislation is required in order to introduce prescriptive authority for nurses and midwives. This is a matter for the Department of Health and Children.

**Action 4.2: Professional regulation and guidance**

The criteria for nurse/midwife prescribing must be established. This will require defining the scope of practice for which prescriptive authority will be granted. It is recommended that the establishment of criteria for nurse/midwife prescribing should be the responsibility of An Bord Altranais.

**Action 4.3: Professional regulation and guidance**

The standards and requirements in respect of the education and training leading to prescriptive authority for nurses and midwives must be established. It is recommended that the establishment of such standards and requirements should be the responsibility of An Bord Altranais.

**Recommendation 5: Implementation of the Recommendations and Actions**

An Bord Altranais and the National Council for the Professional Development of Nursing and Midwifery should establish a Project Implementation Team to work in consultation with key stakeholders to facilitate the implementation of these recommendations and actions.



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## Appendices

## Appendix 1 International Criteria for Nurse/Midwife Prescribing Chart

Country	Model of Prescribing	Education Requirements	Level of Experience	Specialist Qualification	Examples of legislative changes required
<b>United Kingdom</b> Initial pilot sites (1994)	<b>Independent</b> Restricted to limited Nurses Formulary composed mainly of general sale products and 9 prescription medicines	<ul style="list-style-type: none"> <li>Completion of Nurse Prescribing Programme approved by English Board for Nursing, Midwifery and Health Visiting</li> <li>Consisted of 18 hrs of individual study &amp; 3-day course</li> </ul>		<ul style="list-style-type: none"> <li>First-level registered nurse w/district nurse or health visitor qualification</li> <li>UKCC registration as Nurse Prescriber</li> <li>Authorised by employer to prescribe within a primary care setting</li> </ul>	Primary legislation - 1992 Medicinal Products: Prescription by Nurses etc. Act Secondary legislation – 1994 Medicinal Products: Prescription by Nurses etc. Act (Commencement No 1) Order 1994
<b>United Kingdom</b> Present extension for independent prescribing (2005)	Two strands of <b>independent prescribing</b> <ol style="list-style-type: none"> <li>Restricted to Nurse Prescriber's Formulary for district nurses (DN) &amp; health visitors (HV) <ul style="list-style-type: none"> <li>includes dressings, appliances, 13 prescription only medicines &amp; some general sale medicines and pharmacy medicines</li> </ul> </li> <li>Extended Formulary Nurse Prescribing <ul style="list-style-type: none"> <li>allows for all Pharmacy &amp; general Sales &amp; approximately 180 prescription only drugs)</li> <li>Prescribing authorised for over 110 medical conditions within 18 body system categories</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Ability to study at academic level 3 (1st degree level)</li> <li>Education integrated into DN &amp; HV practitioner programmes</li> </ul> </li> <li> <ul style="list-style-type: none"> <li>Ability to study at academic level 3 (1st degree level)</li> <li>Completion of Nurse Prescribing Programme (provided by higher education institution) composed of 26 days of taught instruction and 12 days of clinical mentorship by a medical practitioner over 3 – 6 months</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>At least three years post registration clinical experience</li> <li>At least three years post registration clinical experience</li> </ol>	<ol style="list-style-type: none"> <li>1st level registered nurse with district nurse or health visitor qualification</li> <li>1st level registered nurse or midwife with Nursing Midwifery Council (NMC)  DH has established criteria for nominating nurse/midwife for prescribing course</li> </ol>	

Country	Model of Prescribing	Education Requirements	Level of Experience	Specialist Qualification	Examples of legislative changes required
<b>United Kingdom</b> Nurses and Midwives	<b>Supplementary</b> (collaborative model) Defined as a voluntary partnership between the independent prescriber (doctor or dentist) & a supplementary prescriber, to implement an agreed patient-specific Clinical Management Plan w/ pt's agreement	<ul style="list-style-type: none"> <li>Ability to study at academic level 3</li> <li>Completion of educational course delivered at degree level ( level 3) for prescribing</li> <li>Composed of at least 26 taught days &amp; 12 days of clinical mentorship</li> </ul> <p>The educational course prepares them for independent prescribing also.</p>	At least three years post-registration clinical experience	1st level registered nurse or midwife with NMC	Health and Social Care Act 2001
<b>United Kingdom</b> Nurses and Midwives	<b>Patient Group Directions (PGDs)</b> <ul style="list-style-type: none"> <li>previously known as group protocols</li> <li>defined as written instructions for the supply or administration of medicines to groups of patients who may not be individually identified before presentation for treatment</li> <li>PGDs can be used for any medical condition</li> </ul>	No specific level of education is mandated. There is local preparation in some organisations.	<p>Appropriate experience in area of practice</p> <p>Competency framework developed for use at local level</p>	<p>Must be registered nurse, midwife or health visitor with NMC</p> <p>Any need for specialist qualifications is determined locally within protocol criteria</p>	<p>Definition &amp; criteria for use &amp; content of PGDs is legislated for in medicines legislation.</p> <p>Misuse Use of Drugs Regulations 2001 amended to allow for scheduled medications to be supplied under PGD</p>
<b>United States</b> (States' criteria differ, see individual examples below)	<ul style="list-style-type: none"> <li>Independent</li> <li>Collaborative</li> <li>Protocols</li> </ul> <p>Different models used throughout the states</p>	Continuing education specifically for pharmacology required	Advanced level of practice	Specialist titles vary from state to state NP- nurse practitioner, CNS- clinical nurse specialist, CNM – certified nurse midwife	Authority to prescribe controlled scheduled drugs requires a federal licensure number from the Drugs Enforcement Agency
<b>Colorado</b>	<b>Collaborative</b> Law clearly states "nothing shall be construed to limit the ability of the APN to make independent judgment, require supervision of a physician or require use of formularies" (Phillips, 2005)	<p>Completion of an approved APN program (graduate level) w/ minimum of 45 hrs of each advanced</p> <ul style="list-style-type: none"> <li>health/physical &amp; psychological assessment</li> <li>pathophysiology/ psychopathology</li> <li>pharmacology</li> </ul>	Postgraduate experience as APN >1800 hours in the immediately preceding 5 year period	Registered as Advanced Practice Nurse (NPs, CNSs, CNMs)	
<b>Idaho</b>	<b>Independent</b>	<p>Completion of an approved APN program (graduate level)</p> <ul style="list-style-type: none"> <li>30 hrs of pharmacology beyond basic RN education</li> </ul>	Advanced level of practice (not specifically defined)	Registered as Advanced Practice Professional Nurse (NPs, CNSs, CNMs) National certification exam	Nurses Act provides definition of NP & provides authority to prescribe

Country	Model of Prescribing	Education Requirements	Level of Experience	Specialist Qualification	Examples of legislative changes required
<b>New Jersey</b>	<b>Collaborative</b> Requiring joint protocols (written practice agreements) with doctor	Completion of an approved APN program (graduate level) in the appropriate speciality <ul style="list-style-type: none"> <li>Graduate level course in pharmacology</li> </ul>	Advanced level of practice (not specifically defined)	Registered/certified as advanced practice nurse (NP, CNS, CNM) National certification exam	As above
<b>Canada Ontario Nurses</b>	<b>Independent</b>	<ul style="list-style-type: none"> <li>Post bachelor degree – 12 month programme</li> <li>Diploma prepared RN – 24 months</li> </ul>	Minimum of 2 years full time primary care experience in past 5 years	Registered as Primary Health Care Nurse Practitioners with Extended Class designation with College of Nurses of Ontario	Regulated Health Professions Act, Nursing Act 1991, Public Hospital Act
<b>Ontario Midwives</b>	<b>Independent</b>	Completion of 4 year degree		Registration as midwife with College of Ontario	
<b>Federal nurse employees</b>	<b>Dependent</b> Based on devised formulary	Sixteen week programme	Competencies developed	Rural & remote practice areas	
<b>New Zealand Nurses</b>	<b>Independent</b>	Master's degree preparation or equivalent minimum length of programme – 1 year	Demonstrated competence & experienced in post registration speciality practice (as defined by NZ Nursing Council)	Nurse Practitioner in Aged care or Child Family Health  Sexual & Reproductive Health, Mental Health, Palliative care & Occupational Health are under review	Medicines (Designated Prescriber: Nurses Practising in Aged Care and Family Health) Regulations 2001 Misuse of Drugs Amendment Regulations 2001, Medicines Amendment Regulations 2001
<b>New Zealand Midwives</b>	<b>Independent</b> Limited to medicines relevant to midwifery care	Three year Bachelor of Midwifery programme <b>Or</b> One year post registration advanced diploma for RNs, prescribing education included in programme	None defined	Registered as a midwife	Medicines Act, 1981
<b>Australia</b> Requirements vary in each state (see examples below) <b>Queensland</b>	<b>Protocol use</b> <b>Drug Therapy Protocols &amp; Health Management Protocols</b> The initiation of medicines (supply and/or administration of medication)	<ul style="list-style-type: none"> <li>Completion of post-registration unit from Rural Health Training Unit</li> <li>Prerequisites for rural &amp; isolated practice provided at graduate diploma/master's level</li> </ul>	<ul style="list-style-type: none"> <li>Advanced level of practice</li> <li>Competencies as determined by Nursing Council</li> <li>Utilisation of scope of practice framework</li> </ul>	Endorsement by Nursing Council for <ul style="list-style-type: none"> <li>Remote &amp; rural health</li> <li>Sexual Health</li> <li>Immunisations</li> </ul>	The Health (Drugs and Poisons Regulations) of 1966 amended

Country	Model of Prescribing	Education Requirements	Level of Experience	Specialist Qualification	Examples of legislative changes required
<b>New South Wales</b> (Midwives not authorised to prescribe unless registered as a nurse practitioner)	<b>Dependent</b> with use of guidelines & nursing formulary (requiring the approval of the Director – General of NSW Health)	<ul style="list-style-type: none"> <li>Completion of master's degree</li> <li>Pharmacology &amp; prescribing content &amp; hours determined by schools</li> <li>Second pathway allows nurses to submit "package of evidence" if they do not hold master's degree</li> </ul>	Advanced level of practice of 5000 hours over the past 6 years	Authorisation as Nurse Practitioner from Nurses Registration Bd	Amendments to: NSW Nurses Act 1991 Poisons and Therapeutic Goods Act 1966
<b>Western Australia</b>	<b>Collaborative</b> requires the use of clinical protocols which include detail of the medications to be used	<ul style="list-style-type: none"> <li>Post graduate diploma in Clinical Specialisation (Nurse Practitioner) includes specific modules of pharmacology &amp; pharmacotherapeutics</li> <li>Required internship of minimum of 300 hours of clinical practice</li> </ul>	Minimum of 2 years of practice within speciality area	Authorisation as Nurse Practitioner from Nurses Board of Western Australia	Initial NP regulations completed under Nurses Amendment Act 2003 Others: Medical Act 1894 Misuse of Drugs Act 1981 Pharmacy Act 1964 Poisons Regulations 1965 Radiation Safety Act 1975 Road Traffic Act 1975
<b>Sweden</b> Initial group (nationwide) 1994	<b>Dependent</b> District nurse limited to using a formulary listing the care indications & associated medications	120 credits (basic nursing programme) <ul style="list-style-type: none"> <li>Corresponds to 3 years of study</li> <li>40-50 credits for district nurse programme</li> <li>10 credit course in pharmacology</li> </ul>	Not defined	District nurse qualification	
Extension of prescribing 2001	<b>Dependent</b> Restricted to scope of practice & corresponding formulary of medicines. No specific level of education is mandated. There is local preparation in some organisations	120 credits (basic nursing programme) <ul style="list-style-type: none"> <li>40 credits of specialisation</li> <li>10 credit course in pharmacology &amp; disease knowledge</li> </ul> <b>Or</b> <ul style="list-style-type: none"> <li>Basic nursing programme</li> <li>20 credit course in pharmacology &amp; disease knowledge</li> </ul>	Not defined	Geriatric care	Swedish Medical Products Agency regulates what district nurses can prescribe



## Appendix 2 Definition of Terms for Needs Assessment Survey

Rx

## Review of Nurses &amp; Midwives in the Prescribing &amp; Administration of Medicinal Products Project

## Definition of Terms

**NURSE LED-CARE**

Nurse-led care is provided by nurses responsible for case management, which includes comprehensive patient/client assessment, developing, implementing and managing a plan of care, clinical leadership and decision to admit or discharge. Patients/clients will be referred to nurse-led services by nurses, midwives or other health care professionals, in accordance with collaboratively agreed protocols (National Council for the Professional Development of Nursing and Midwifery, 2003).

**MODELS OF PRESCRIBING**

Model 1 Independent nurse/midwife prescribing (autonomous)

Model 2 Collaborative prescribing (semi-autonomous)

Model 3 Protocol (a) Supply of Prescription only medicines (POM) and Over-the-counter (OTC) medications  
(b) Supply of Over-the-counter medications only

**1) INDEPENDENT NURSE/MIDWIFE PRESCRIBING (AUTONOMOUS)**

The nurse/midwife is legally authorised to independently prescribe medications. She/he is responsible for the assessment of the patient, determining what the patient's problem is, making a diagnosis that may lead to a clinical decision to prescribe a medication. The nurse/midwife holds full accountability and responsibility for this process/action. No collaboration or consultation with a medical practitioner is required by law.

**2) COLLABORATIVE NURSE/MIDWIFE PRESCRIBING (SEMI-AUTONOMOUS)**

The nurse/midwife has the authority under law to prescribe medications in collaboration with a medical practitioner. This may involve a written agreement and/or verbal consultation between the nurse/midwife and the medical practitioner as to which medications she/he is authorised to prescribe within that practice. Direct on site supervision by a doctor may or may not be required. The accountability for the patient assessment, the treatment plan and the decision to prescribe rests fully with the nurse/midwife. In some practices of collaborative prescribing the nurse/midwife is limited to making adjustments to a medication, such as dosage changes and prescribing repeat prescriptions.

**3) PROTOCOLS**

This model involves the use of written guidelines, developed through multidisciplinary collaboration by health care professionals (nursing, medical and pharmacy) under which specific medicinal products are supplied and administered by nurses/midwives to patients/clients in a defined clinical situation.

**A) PRESCRIPTION ONLY (POM) AND OVER-THE-COUNTER (OTC) MEDICATIONS**

The nurses/midwife is authorised to supply a POM and/or an OTC medication to a patient/client adhering to the requirements outlined within the medication protocol. Specific criteria relating to patient assessment and confirmation of the patient's problem must be met before the medication is supplied and administered to the patient/client.

**B) OVER-THE-COUNTER (OTC) MEDICATIONS**

The nurse/midwife is authorised to supply and administer an over-the-counter medication for a patient/client. Again, adherence to a written protocol that outlines the clinical situation and patient presentation must be met in order for the nurse/midwife to supply and administer the non-prescription medication to the individual patient/client.

The nurse/midwife using the protocol model is responsible for determining whether or not the patient/client's condition warrants the use of the medication protocol and it applies only to the defined medication stated in the protocol. The nurse/midwife is fully accountable for the decision to supply and administer the medication to the patient/client.

**COLLABORATION**

Collaboration has been defined and characterised in a variety of ways. It is an interpersonal process between two or more people bringing together their individual skills, experience and knowledge to solve problems, meet a collective goal, and deciding a patient's plan of care (Hanson, Spross & Carr, 2000; Lee & Pulcini, 1998). Support of nurses' decision-making, integrated documentation of patient care and joint chart review have been identified as key components of collaboration (National Joint Practice Commission, 1979 as reported in Hanson, Spross & Carr, 2000). The American Nurses Association has identified that joint-decision making is facilitated by collaboration while recognising the expertise of the individual collaborators (ANA, 1995).

**CHARACTERISTICS OF EFFECTIVE COLLABORATION BETWEEN HEALTH CARE PROVIDERS INCLUDE:**

Trust, autonomy, co-operation, co-ordination, flexibility, negotiation, mutual power, interpersonal and clinical competence, accountability, defined practice roles, mutual respect of divergent and complementary knowledge and skills, effective communication skills, including conflict resolutions, humour and administrative support (Abramson & Mizrahi, 1996; Adamski, 1998; Baggs & Schmitt, 1997; Spross, 1989; Steel, 1986).



## Appendix 3 The Needs Assessment Survey

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## NEEDS ASSESSMENT for NURSE and MIDWIFE PRESCRIBING

**Introduction and Purpose**

Internationally, nurses and midwives are expanding their scope of practice in providing health care, and are taking on greater roles and responsibilities in managing medications for patients and clients, to include prescribing. The 'Review of Nurses and Midwives in the Prescribing and Administration of Medicinal Products', a collaborative project between An Bord Altranais and the National Council for the Professional Development of Nursing and Midwifery has been established to examine such issues from an Irish perspective.

As part of this review a needs assessment is being conducted to identify the need for nurses and midwives to prescribe medications as part of their provision of patient/client care.

Your contribution to this project is valued and we invite you to take part in this stage of the review by completing the enclosed survey. The findings of this needs assessment will be of significance in informing and developing future roles for nurses and midwives in the areas of medication management and prescriptive authority.

If your nursing/midwifery qualification/s are not required for your current position

(e.g. you are working as a solicitor, town planner, or in banking) place a tick in the box ☐

AND DO NOT PROCEED WITH SURVEY

Please return the unanswered survey in the enclosed envelope.

**General Information and Instructions**

- Please use a black pen to complete this survey.
- This survey is anonymous, please do not include your name. The information collected is for the purpose of this research only and will only be used by the Project Team.
- It will take approximately 20 minutes to complete this survey.
- Please return the completed survey in the enclosed pre-paid envelope to An Bord Altranais within 2 weeks of receiving it in the post.
- All those participating in this survey will be entered into a draw for 5 prizes of EUR100 each for continuing professional development of your choice. The winning ID numbers will be posted in the An Bord Altranais newsletter and on the website ([www.aba.ie](http://www.aba.ie)). Please remember to retain the perforated section with your ID number below.

**Thank you for your participation**

If you have any queries related to this survey or about the project review please address these to:

Kathleen Walsh or Denise Carroll  
Project Office, An Bord Altranais  
31/32 Fitzwilliam Square, Dublin 2  
Tel: 01 639 8502 or 8557

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Please retain  
this section

ID NUMBER



## SECTION ONE

**Q1 What was your first nursing qualification? Please tick one box only**

- Certificate ☐
- Diploma ☐
- Degree ☐
- My first qualification was in Midwifery ☐

**Q2 In addition to this, what other nursing/midwifery academic qualifications have you completed? Please state the number in the box provided**

- None ☐
- Certificate ☐
- Diploma ☐
- Bachelor's Degree ☐
- Higher Diploma ☐
- Postgraduate Diploma ☐
- Master's Degree ☐
- Doctorate ☐
- Other (Please specify) \_\_\_\_\_

**Q3 Which of the following settings best describes where you work? Please tick one box only**

- Hospital (Go to Q3a) ☐
- Hospital and Community (Go to Q3a) ☐
- Community\* ☐
- Nursing Home\* ☐
- Private Industry\* ☐
- Residential Home\* ☐
- Higher Education Institute\* ☐
- Other\* (Please specify) \_\_\_\_\_

\* Go directly to question 4

**Q3a How many beds?**

- 300 or more beds ☐
- 299 or less beds ☐

**Q4 Who is your employer?**

- Health Board ☐
- Private Sector Organisation ☐
- Voluntary Services ☐
- Higher Education Institute ☐
- Voluntary Hospital ☐
- Other (Please specify) \_\_\_\_\_

**Q5 Which of the following best describes your current area of practice? Please tick one box only**

- Accident and Emergency ☐
- Care of the Older Person ☐
- Nurse/Midwife Education ☐
- General Practice ☐
- Paediatrics ☐
- Oncology/Haematology ☐
- Palliative Care ☐
- Psychiatry ☐
- Intellectual Disability ☐
- Medical/Surgical ☐
- Critical Care ☐
- Midwifery ☐
- Public Health ☐
- Occupational Health ☐
- Nursing/Midwifery Administration ☐
- Research ☐
- Theatre ☐
- Other (Please specify) \_\_\_\_\_

Rx

## SECTION ONE

**Q6 What is your current position?**

- Staff Nurse/Midwife ☐
- Clinical Nurse/Midwife Manager I ☐
- Clinical Nurse/Midwife Manager II ☐
- Clinical Nurse/Midwife Manager III ☐
- Assistant Director of Nursing/Midwifery ☐
- Director of Nursing/Midwifery ☐
- Clinical Nurse/Midwife Specialist ☐
- Advanced Nurse Practitioner ☐
- Nurse/Midwife Tutor/Lecturer ☐
- Public Health Nurse ☐
- Practice Nurse ☐
- Independent Midwife ☐
- Other (Please specify) \_\_\_\_\_

**Q6a Is this position in nursing or midwifery?  
Please tick one box only**

Nursing ☐ Midwifery ☐

**Q7 How many years have you worked in your current position?**

\_\_\_\_\_ number of years

**Q8 Do you work in a nurse-led unit?  
Please refer to definition provided**

Yes ☐ No ☐

**Q9 What is your age group?**

- 20-29 ☐
- 30-39 ☐
- 40-49 ☐
- 50-59 ☐
- 60+ ☐

**Q10 Gender?**

Male ☐ Female ☐

**Q11 Which division of the register are you on? Please tick the relevant box(es) and fill in the year of registration**

General ☐ Year of Registration \_\_\_\_\_

Midwifery ☐

Mental Handicap ☐

Psychiatry ☐

Sick Children ☐

Public Health ☐

Nurse Tutor ☐

**Q12 In which geographical area of Ireland do you work?**

North East ☐

East ☐

South ☐

South-East ☐

West ☐

North-West ☐

More than one area ☐

**Q13 Which of the following best describes the location of your work?**

Urban ☐

Rural ☐

Both ☐

**Q14 Based upon the information you have given, do you provide nursing/midwifery care directly to your patients?**

YES ☐ (SKIP TO SECTION THREE)

NO ☐ (GO TO SECTION TWO)

Rx

## SECTION TWO This section should be completed by non-direct care providers only

Please refer to Definition of Terms before completing this section.

**Q15 We are interested in learning whether or not you think that nurses and midwives need to prescribe. However, nurses and midwives may have different needs for prescribing so please tick the box indicating which of the professions you represent.**

Nursing ☐ Midwifery ☐

**Q16 Do you think nurses/midwives should be authorised to *independently* prescribe?**

YES ☐ (GO TO QUESTION 17)

NO ☐ (SKIP TO QUESTION 18)

**Q17 Please tick one box only in each of the three categories below indicating the criteria you think would be necessary to authorise nurses and midwives to independently prescribe.**

*Independent Prescribing Model*

**(a) Education**

- Master's Degree ☐
- Postgraduate Diploma ☐
- Higher Diploma ☐
- Certificate ☐
- Preparatory module for nurse/midwife prescribing ☐
- Pre-registration education only ☐
- Don't know ☐
- Other (Please specify) \_\_\_\_\_

**(b) Number of years clinical experience since first qualification**

- ≥ 5 or more years post registration ☐
- 3-4 years post registration ☐
- 1-2 years post registration ☐
- <1 year post registration ☐
- Don't know ☐

**(c) Number of years experience in specific area of practice where the nurse/midwife would prescribe**

- ≥ 5 or more years post registration ☐
- 3-4 years post registration ☐
- 1-2 years post registration ☐
- <1 year post registration ☐
- Don't know ☐

**Q18 Do you think nurses/midwives should be authorised to *collaboratively* prescribe?**

YES ☐ (GO TO QUESTION 19)

NO ☐

IF YOUR ANSWER IS NO, YOU HAVE NOW COMPLETED THE SURVEY.

THANK YOU FOR YOUR PARTICIPATION  
PLEASE RETURN THIS SURVEY IN THE  
ENVELOPE PROVIDED.

Rx

## SECTION TWO

**Q19 Please place a tick in the box beside the criteria you think would be necessary to authorise nurses and midwives to collaboratively prescribe.**

*Collaborative Prescribing Model*

**a) Education**

- |  |                          |
|--|--------------------------|
| Master's Degree                                  | <input type="checkbox"/> |
| Postgraduate Diploma                             | <input type="checkbox"/> |
| Higher Diploma                                   | <input type="checkbox"/> |
| Certificate                                      | <input type="checkbox"/> |
| Preparatory module for nurse/midwife prescribing | <input type="checkbox"/> |
| Pre-registration education only                  | <input type="checkbox"/> |
| Don't know                                       | <input type="checkbox"/> |
| Other (please specify) _____                     |                          |

**(b) Number of years clinical experience since first qualification**

- |                                     |                          |
|-------------------------------------|--------------------------|
| ≥ 5 or more years post registration | <input type="checkbox"/> |
| 3-4 years post registration         | <input type="checkbox"/> |
| 1-2 years post registration         | <input type="checkbox"/> |
| <1 year post registration           | <input type="checkbox"/> |
| Don't know                          | <input type="checkbox"/> |

**(c) Number of years experience in specific area of practice where the nurse/midwife would prescribe**

- |                                     |                          |
|-------------------------------------|--------------------------|
| ≥ 5 or more years post registration | <input type="checkbox"/> |
| 3-4 years post registration         | <input type="checkbox"/> |
| 1-2 years post registration         | <input type="checkbox"/> |
| <1 year post registration           | <input type="checkbox"/> |
| Don't know                          | <input type="checkbox"/> |

YOU HAVE NOW COMPLETED THE SURVEY.

THANK YOU FOR YOUR PARTICIPATION.  
PLEASE RETURN THIS SURVEY IN THE  
ENVELOPE PROVIDED.





### SECTION THREE This section should be completed by direct care providers only

**Q20 We are interested in determining which models of prescribing are needed by nurses and midwives. Please select from the models below that which is most needed for your practice. Tick one box only.**

- |                   |   |                          |                      |
|-------------------|---|--------------------------|----------------------|
| Model 1           | Independent nurse/midwife prescribing (autonomous)                      | <input type="checkbox"/> | GO TO Q21            |
| Model 2           | Collaborative nurse/midwife prescribing (semi-autonomous)               | <input type="checkbox"/> | GO TO Q21            |
| Model 3           | Protocol (a) Supply of Prescription only & Over-the-counter medications | <input type="checkbox"/> | GO TO Q22            |
|                   | (b) Supply of Over-the -counter medications only                        | <input type="checkbox"/> | GO TO Q22            |
| None of the above |   | <input type="checkbox"/> | SKIP TO SECTION FOUR |

**Q21 We are interested to learn what criteria you think would be necessary to authorise nurses and midwives to use the independent and collaborative prescribing models as outlined above. Please place a tick in the box beside the criteria you think should be required to use the model that you have chosen in Q20. Tick one box only in each of the categories below.**

**a) Education**

- |  |                          |
|--|--------------------------|
| Master's Degree                                  | <input type="checkbox"/> |
| Postgraduate Diploma                             | <input type="checkbox"/> |
| Higher Diploma                                   | <input type="checkbox"/> |
| Certificate                                      | <input type="checkbox"/> |
| Preparatory module for nurse/midwife prescribing | <input type="checkbox"/> |
| Pre-registration education only                  | <input type="checkbox"/> |
| Don't know                                       | <input type="checkbox"/> |
| Other (Please specify) _____                     |                          |

**b) Number of years clinical experience since first qualification**

- |                                     |                          |
|-------------------------------------|--------------------------|
| ≥ 5 or more years post registration | <input type="checkbox"/> |
| 3-4 years post registration         | <input type="checkbox"/> |
| 1-2 years post registration         | <input type="checkbox"/> |
| <1 year post registration           | <input type="checkbox"/> |
| Don't know                          | <input type="checkbox"/> |

**c) Number of years experience in specific area of practice where the nurse/midwife would prescribe**

- |                                     |                          |
|-------------------------------------|--------------------------|
| ≥ 5 or more years post registration | <input type="checkbox"/> |
| 3-4 years post registration         | <input type="checkbox"/> |
| 1-2 years post registration         | <input type="checkbox"/> |
| <1 year post registration           | <input type="checkbox"/> |
| Don't know                          | <input type="checkbox"/> |

Rx

**SECTION THREE** This section should be completed by direct care providers only**Q22 From the definition provided, do you consider that you work in a collaborative practice environment?**Yes ☐ No ☐ Don't know ☐**Q23 We are interested in the supports that you think would be needed within your practice for the model you have chosen in Q20. Please read the following statements and circle the number which best describes your response.**

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Collaboration between nurses/midwives and doctors in my practice area would be necessary for the model I have chosen.	1	2	3	4	5
Collaboration between nurses/midwives and pharmacists in my practice area would be necessary for the model I have chosen.	1	2	3	4	5
The support of the medical profession would be important for implementation of the model I have chosen.	1	2	3	4	5
The support of the pharmacy profession would be important for implementation of the model I have chosen.	1	2	3	4	5
The support of my nursing/midwifery management would be important for implementation of the model I have chosen.	1	2	3	4	5

**Q24 We are interested to learn the reasons why you selected the model of prescribing that you have chosen in Q20. Please read the following statements and circle the number which best describes your response.**

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
It would make better use of my expertise.	1	2	3	4	5
It would legitimise my current practice.	1	2	3	4	5
Personnel/human resources would be used more effectively.	1	2	3	4	5
There is a shortage of medical practitioners working within my practice setting.	1	2	3	4	5
I would be able to provide more holistic care for my patients/clients.	1	2	3	4	5

## Rx

## SECTION THREE

**Q25 We are interested in learning what you consider to be the main benefits of the model you have chosen in Q20 for your practice. Please read the following statements and circle the number which best describes your response.**

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
It would provide legal clarification of my current practice.	1	2	3	4	5
It would result in safer patient/client care.	1	2	3	4	5
The professional development of nursing and midwifery would be enhanced.	1	2	3	4	5
My role would be more autonomous.	1	2	3	4	5
Nursing/Midwifery would make its own unique contribution to prescribing for patients/clients.	1	2	3	4	5
It would increase patients'/clients' accessibility to care.	1	2	3	4	5
More timely treatment could be provided to patients/clients.	1	2	3	4	5
Patients and clients would receive more information on their medications.	1	2	3	4	5
Patient/client care would be more cost effective.	1	2	3	4	5
Patient's/client's compliance with their medications would be improved.	1	2	3	4	5
Stress levels for nurses/midwives would be reduced.	1	2	3	4	5
It would improve the quality of patient/client care.	1	2	3	4	5
It would help relieve future problems with the reduction in doctors working hours.	1	2	3	4	5
Interdisciplinary teamwork would be improved.	1	2	3	4	5
It would enable the provision of more holistic care for patients/clients.	1	2	3	4	5

**If you selected Model 1 or 2 in Q20, please skip to SECTION FIVE.  
If you did not select Model 1 or 2 in Q20, please go to SECTION FOUR.**



## SECTION FOUR

**Q26 We are interested in understanding why you did not choose either model 1 or 2 for your practice. The following statements describe a number of reasons that might have influenced your choice. Please circle the number which best describes your response.**

I did not choose Model 1 or 2 because:	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Protocols would be adequate for my practice.	1	2	3	4	5
I am satisfied with my existing caring role.	1	2	3	4	5
I do not want to engage in further education.	1	2	3	4	5
We have enough doctors in my practice to prescribe already.	1	2	3	4	5
I do not want to lose touch with "real nursing".	1	2	3	4	5
Nurse/midwife prescribing is only being introduced for the convenience of doctors.	1	2	3	4	5
It is not being introduced for the benefit of patients/clients.	1	2	3	4	5
Nurse/midwife prescribing is not being introduced for the professional development of nursing and midwifery.	1	2	3	4	5
I would be fearful of interdisciplinary conflict.	1	2	3	4	5
It would result in an increased workload.	1	2	3	4	5
I have poor support from pharmacy in my practice.	1	2	3	4	5
I am fearful of increased accountability.	1	2	3	4	5
I would have problems getting release time for further education.	1	2	3	4	5
It would be an inferior alternative to doctors prescribing.	1	2	3	4	5
I am fearful of increased litigation.	1	2	3	4	5
I have poor support from the medical profession within my practice.	1	2	3	4	5
Patients/clients would be slow to accept this change in practice.	1	2	3	4	5

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## SECTION FIVE

This section should only be answered by those who selected either Model 1 or 2 in Q20.

**Q27 We are interested in learning about what medications you would need to prescribe in your specific practice area. The following table outlines categories of medications used to treat associated health conditions. Please tick the medications you might need for your practice if you were able to prescribe for your patients.**

Management of cardiovascular conditions	Antiarrhythmics	<input type="checkbox"/>	Vasoconstrictors	<input type="checkbox"/>
	Antihypertensives	<input type="checkbox"/>	Calcium Channel Blockers	<input type="checkbox"/>
	Glycosides	<input type="checkbox"/>	Diuretics	<input type="checkbox"/>
	Vasodilators	<input type="checkbox"/>	Antianginals	<input type="checkbox"/>
	Cardiopulmonary	<input type="checkbox"/>		
	Resuscitative Agents			
Management of blood conditions	Anticoagulants	<input type="checkbox"/>	Haemostatic Agents	<input type="checkbox"/>
	Thrombolytics	<input type="checkbox"/>	Antihaemophilic Drugs	<input type="checkbox"/>
	Antiplatelet Agents	<input type="checkbox"/>	Lipid Regulating Drugs	<input type="checkbox"/>
Management of neuro-psychiatric conditions	Anticonvulsants	<input type="checkbox"/>	Antipsychotics	<input type="checkbox"/>
	Antianxiety Agents	<input type="checkbox"/>	Hypnotics	<input type="checkbox"/>
	Antidepressants	<input type="checkbox"/>	Antiparkinson Drugs	<input type="checkbox"/>
	Sedatives	<input type="checkbox"/>	Tranquilisers	<input type="checkbox"/>
	Stimulants	<input type="checkbox"/>	Appetite Suppressants	<input type="checkbox"/>
Management of pain and inflammatory conditions	Opioids	<input type="checkbox"/>	Local and Topical Anaesthetics	<input type="checkbox"/>
	Narcotic Antagonists	<input type="checkbox"/>	Antimigraine Drugs	<input type="checkbox"/>
	Narcotic Analgesics	<input type="checkbox"/>	Antirheumatic Agents	<input type="checkbox"/>
	Non-Steroidal	<input type="checkbox"/>	Antigout Agents	<input type="checkbox"/>
	Anti-Inflammatories	<input type="checkbox"/>		
	Muscle Relaxants	<input type="checkbox"/>		
Management of respiratory conditions	Bronchodilators	<input type="checkbox"/>	Mucolytics	<input type="checkbox"/>
	Antihistamines	<input type="checkbox"/>	Antiexpectorants	<input type="checkbox"/>
	Decongestants	<input type="checkbox"/>	Corticosteroids	<input type="checkbox"/>
	Antitussives	<input type="checkbox"/>		
Management of gastrointestinal conditions	Anti-emetics	<input type="checkbox"/>	Antidiarrheals	<input type="checkbox"/>
	Ulcer Healing Drugs	<input type="checkbox"/>	Laxatives	<input type="checkbox"/>
	Antacids	<input type="checkbox"/>	Stool Softeners	<input type="checkbox"/>
			Antispasmodics	<input type="checkbox"/>
Management of endocrine conditions	Antithyroid Drugs	<input type="checkbox"/>	Antiosteoporosis Agents	<input type="checkbox"/>
	Thyroid Agents	<input type="checkbox"/>	Contraceptive Agents	<input type="checkbox"/>
	Insulin	<input type="checkbox"/>	Ovulatory Stimulants	<input type="checkbox"/>
	Oral Hypoglycaemic Agents	<input type="checkbox"/>	Gonadal Hormones	<input type="checkbox"/>
	Hyperglycaemic Agents	<input type="checkbox"/>	Oxytocic Agents	<input type="checkbox"/>
	Glucocorticoids	<input type="checkbox"/>	Pancreatic Hormones	<input type="checkbox"/>

Rx

Management of genitourinary conditions	Prostatic Agents	<input type="checkbox"/>	Enuresis Agents	<input type="checkbox"/>
	Bladder Inhibitors	<input type="checkbox"/>	Antibiotics	<input type="checkbox"/>
	Bladder Stimulants	<input type="checkbox"/>	Antiseptics	<input type="checkbox"/>
Management of bacterial, fungal, viral, parasitic, protozoal and other infections	Antibiotics	<input type="checkbox"/>	Antiviral Drugs	<input type="checkbox"/>
	Antifungal Drugs	<input type="checkbox"/>	Anti-parasitic Agents	<input type="checkbox"/>
Management of dermatological conditions	Debriding/Fibrinolytic Agents	<input type="checkbox"/>	Acne Preparations	<input type="checkbox"/>
	Topical Anti-infectives	<input type="checkbox"/>	Anti-inflammatory Agents	<input type="checkbox"/>
	Antiseptics	<input type="checkbox"/>	Topical Steroids	<input type="checkbox"/>
	Wound Dressings	<input type="checkbox"/>	Anti-pruritics	<input type="checkbox"/>
	Local Anaesthetics	<input type="checkbox"/>	Emollients	<input type="checkbox"/>
	Astringents	<input type="checkbox"/>		
Management of electrolyte and nutritional conditions	Vitamins	<input type="checkbox"/>	Fluid Therapy	<input type="checkbox"/>
	Minerals	<input type="checkbox"/>	Enteral Nutrition	<input type="checkbox"/>
	Electrolyte Replacements	<input type="checkbox"/>	Anti-obesity Drugs	<input type="checkbox"/>
Management of eye and ear conditions	Anti-glaucoma Agents	<input type="checkbox"/>	Anti-infective Drugs	<input type="checkbox"/>
	Cycloplegic Agents	<input type="checkbox"/>	Anti-inflammatory Agents	<input type="checkbox"/>
	Mydriatics	<input type="checkbox"/>	Antibiotic Ear Preparations	<input type="checkbox"/>
	Topical Anaesthetics	<input type="checkbox"/>	Corticosteroid Agents	<input type="checkbox"/>
Management of immunological conditions	Vaccinations	<input type="checkbox"/>	Immunoglobulins	<input type="checkbox"/>
Management of substance abuse and dependency conditions	Smoking cessation aids	<input type="checkbox"/>	Opioid agonists	<input type="checkbox"/>
Other conditions – (Please specify)	Drug classification – (Please specify)			

YOU HAVE NOW COMPLETED THE SURVEY.

THANK YOU FOR YOUR PARTICIPATION.

PLEASE RETURN THIS SURVEY IN THE ENVELOPE PROVIDED.





## Appendix 4 Needs Assessment Survey Demographics

### Gender

	Frequency	Percent	Valid Percent	Cumulative Percent %
Male	60	6.1	6.3	6.3
Female	898	91.1	93.7	100.0
Total	958	97.2	100.0	
Missing	28	2.8		
Total	986	100.0		

### Age Groupings

	Frequency	Percent	Valid Percent	Cumulative Percent %
20-29	108	11.0	11.1	11.1
30-39	299	30.3	30.8	42.0
40-49	318	32.3	32.8	74.7
50+	245	24.8	25.3	100.0
Tota	970	98.4	100.0	
Missing	16	1.6		
Total	986	100.0		

### What was your first Nursing Qualification?

	Frequency	Percent	Valid Percent	Cumulative Percent %
Certificate	780	79.1	79.2	79.2
Diploma	146	14.8	14.8	94.0
Degree	52	5.3	5.3	99.3
My first qualification was in midwifery	7	.7	.7	100.0
Total	985	99.9	100.0	
Missing	1	.1		
Total	986	100.0		

### Are you on the General Division of the Register?

	Frequency	Percent	Valid Percent	Cumulative Percent %
Yes	847	85.9	100.0	100.0
Missing	10	1.0		
Non applicable	129	13.1		
Total	139	14.1		
Total	986	100.0		

**Are you on the Midwifery Division of the Register?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Yes	350	35.5	100.0	100.0
Missing	10	1.0		
Non applicable	626	63.5		
Total	636	64.5		
Total	986	100.0		

**Are you on the Mental Handicap Division of the Register?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Yes	59	6.0	100.0	100.0
Missing	10	1.0		
Non applicable	917	93.0		
Total	927	94.0		
Total	986	100.0		

**Are you on the Psychiatric Division of the Register?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Yes	142	14.4	100.0	100.0
Missing	10	1.0		
Non applicable	834	84.6		
Total	844	85.6		
Total	986	100.0		

**Are you on the Sick Children Division of the Register?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Yes	115	11.7	100.0	100.0
Missing	10	1.0		
Non applicable	861	87.3		
Total	871	88.3		
Total	986	100.0		

**Are you on the Public Health Division of the Register?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Yes	84	8.5	100.0	100.0
Missing	10	1.0		
Non applicable	892	90.5		
Total	902	91.5		
Total	986	100.0		

**Are you on the Tutor Division of the Register?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Yes	35	3.5	100.0	100.0
Missing	10	1.0		
Non applicable	941	95.4		
Total	951	96.5		
Total	986	100.0		

**Decade of General Registration**

	Frequency	Percent	Valid Percent	Cumulative Percent %
pre-1970	47	4.8	6.6	6.6
1970's	168	17.0	23.7	30.4
1980's	195	19.8	27.5	57.9
1990's	206	20.9	29.1	87.0
> 2000	92	9.3	13.0	100.0
Total	708	71.8	100.0	
Missing	150	15.2		
Non applicable	128	13.0		
Total	278	28.2		
Total	986	100.0		

**Decade of Midwifery Registration**

	Frequency	Percent	Valid Percent	Cumulative Percent %
pre-1970	19	1.9	6.5	6.5
1970's	90	9.1	30.9	37.5
1980's	84	8.5	28.9	66.3
1990's	76	7.7	26.1	92.4
> 2000	22	2.2	7.6	100.0
Total	291	29.5	100.0	
Missing	70	7.1		
Non applicable	625	63.4		
Total	695	70.5		
Total	986	100.0		

**Decade of Mental Handicap Registration**

	Frequency	Percent	Valid Percent	Cumulative Percent %
1970's	5	.5	11.9	11.9
1980's	12	1.2	28.6	40.5
1990's	19	1.9	45.2	85.7
>2000	6	.6	14.3	100.0
Total	42	4.3	100.0	
Missing	26	2.6		
Non applicable	918	93.1		
Total	944	95.7		
Total	986	100.0		

**Decade of Psychiatric Registration**

	Frequency	Percent	Valid Percent	Cumulative Percent %
pre-1970	9	.9	7.6	7.6
1970's	37	3.8	31.1	38.7
1980's	45	4.6	37.8	76.5
1990's	23	2.3	19.3	95.8
> 2000	5	.5	4.2	100.0
Total	119	12.1	100.0	
Missing	35	3.5		
Non applicable	832	84.4		
Total	867	87.9		
Total	986	100.0		

**Decade of Sick Children Registration**

	Frequency	Percent	Valid Percent	Cumulative Percent %
pre-1970	3	.3	2.9	2.9
1970's	17	1.7	16.5	19.4
1980's	29	2.9	28.2	47.6
1990's	41	4.2	39.8	87.4
> 2000	13	1.3	12.6	100.0
Total	103	10.4	100.0	
Missing	22	2.2		
Non applicable	861	87.3		
Total	883	89.6		
Total	986	100.0		

**Decade of Public Health Registration**

	Frequency	Percent	Valid Percent	Cumulative Percent %
pre-1970	1	.1	1.5	1.5
1970's	13	1.3	20.0	21.5
1980's	15	1.5	23.1	44.6
1990's	14	1.4	21.5	66.2
> 2000	22	2.2	33.8	100.0
Total	65	6.6	100.0	
Missing	29	2.9		
Non applicable	892	90.5		
Total	921	93.4		
Total	986	100.0		

**Decade of Tutor Registration**

	Frequency	Percent	Valid Percent	Cumulative Percent %
pre-1970	1	.1	3.6	3.6
1980's	10	1.0	35.7	39.3
1990's	9	.9	32.1	71.4
> 2000	8	.8	28.6	100.0
Total	28	2.8	100.0	
Missing	17	1.7		
Non applicable	941	95.4		
Total	958	97.2		
Total	986	100.0		

**How Many Divisions of the Register are you on?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
1	450	45.6	46.1	46.1
2	413	41.9	42.3	88.4
3	101	10.2	10.3	98.8
4	11	1.1	1.1	99.9
5	1	.1	.1	100.0
Total	976	99.0	100.0	
Missing	10	1.0		
Total	986	100.0		

**Highest Additional Qualification**

	Frequency	Percent	Valid Percent	Cumulative Percent %
No additional qualification	248	25.2	26.0	26.0
Certificate	208	21.1	21.8	47.8
Diploma	128	13.0	13.4	61.3
Higher Diploma/Post Graduate Diploma	159	16.1	16.7	78.0
Degree	157	15.9	16.5	94.4
Masters/ Doctorate	53	5.4	5.6	100.0
Total	953	96.7	100.0	
Missing	33	3.3		
Total	986	100.0		

**Which of These Settings Best Describes Where You Work?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Hospital	547	55.5	56.7	56.7
Hospital & Community	46	4.7	4.8	61.5
Community	200	20.3	20.7	82.2
Nursing Home	74	7.5	7.7	89.8
Private Industry	14	1.4	1.5	91.3
Residential Home	61	6.2	6.3	97.6
Higher Education Institute	19	1.9	2.0	99.6
Other	4	.4	.4	100.0
Total	965	97.9	100.0	
Missing	21	2.1		
Total	986	100.0		

**How Many Beds Are in Your Hospital?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
300 or more	235	23.8	41.9	41.9
299 or less	326	33.1	58.1	100.0
Total	561	56.9	100.0	
Missing	51	5.2		
Non applicable	374	37.9		
Total	425	43.1		
Total	986	100.0		

**Who is Your Employer?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Health Board	704	71.4	71.8	71.8
Private Sector Organisation	133	13.5	13.6	85.4
Voluntary Services	53	5.4	5.4	90.8
Higher Education Institute	16	1.6	1.6	92.4
Voluntary Hospital	66	6.7	6.7	99.2
Other	8	.8	.8	100.0
Total	980	99.4	100.0	
Missing	6	.6		
Total	986	100.0		

**Current Practice Area**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Care of the older person	175	17.7	17.9	17.9
General Practice	29	2.9	3.0	20.9
Paediatrics	60	6.1	6.1	27.0
Psychiatry	93	9.4	9.5	36.5
Intellectual Disability	72	7.3	7.4	43.9
Medical/Surgical	180	18.3	18.4	62.3
Critical Care	41	4.2	4.2	66.5
Midwifery	73	7.4	7.5	74.0
Public Health	95	9.6	9.7	83.7
Other	159	16.1	16.3	100.0
Total	977	99.1	100.0	
Missing	9	.9		
Total	986	100.0		

**What is Your Current Position?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Staff Nurse/ Midwife	541	54.9	55.2	55.2
CNM1/CMM1	57	5.8	5.8	61.0
CNM2/CMM2	104	10.5	10.6	71.6
CNM3/CMM3	17	1.7	1.7	73.4
ADON/ADOM	31	3.1	3.2	76.5
DON/DOM	22	2.2	2.2	78.8
CNS/CMS	42	4.3	4.3	83.1
Nurse/Midwife Tutor/Lecturer	25	2.5	2.6	85.6
Public Health Nurse	76	7.7	7.8	93.4
Practice Nurse	24	2.4	2.4	95.8
Other	41	4.2	4.2	100.0
Total	980	99.4	100.0	
Missing	6	.6		
Total	986	100.0		

**Is this Position in Nursing or Midwifery?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Nursing	864	87.6	88.6	88.6
Midwifery	92	9.3	9.4	98.1
Nursing & Midwifery	19	1.9	1.9	100.0
Total	975	98.9	100.0	
Missing	11	1.1		
Total	986	100.0		



**Number of Years in Current Position**

	Frequency	Percent	Valid Percent	Cumulative Percent %
1-5 yrs	503	51.0	54.3	54.3
6-10 yrs	179	18.2	19.3	73.7
11-15 yrs	93	9.4	10.0	83.7
16-20 yrs	59	6.0	6.4	90.1
21-25 yrs	41	4.2	4.4	94.5
> 26 yrs	51	5.2	5.5	100.0
Total	926	93.9	100.0	
Missing	60	6.1		
Total	986	100.0		

**Do You Work in a Nurse-led Unit?**

	Frequency	Percent	Valid Percent	Cumulative Percent %
Yes	428	43.4	46.3	46.3
No	497	50.4	53.7	100.0
Total	925	93.8	100.0	
Missing	61	6.2		
Total	986	100.0		

**In Which Geographical Area of Ireland Do You Work?**

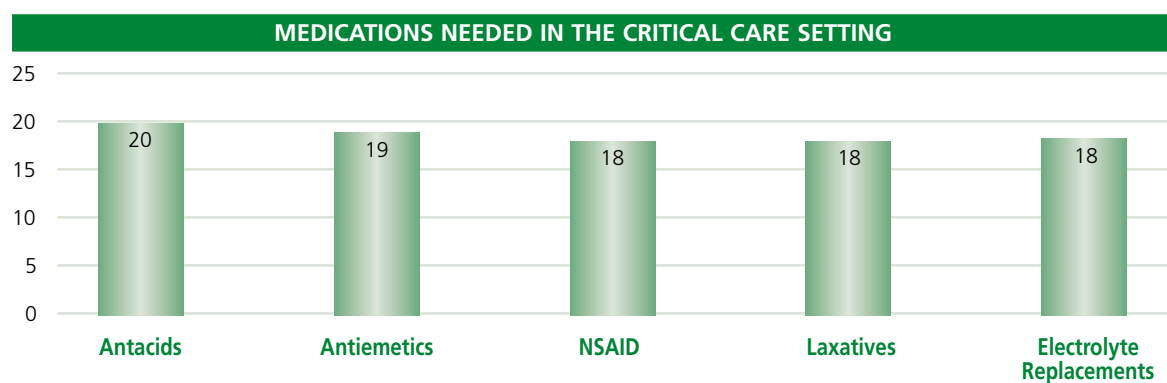
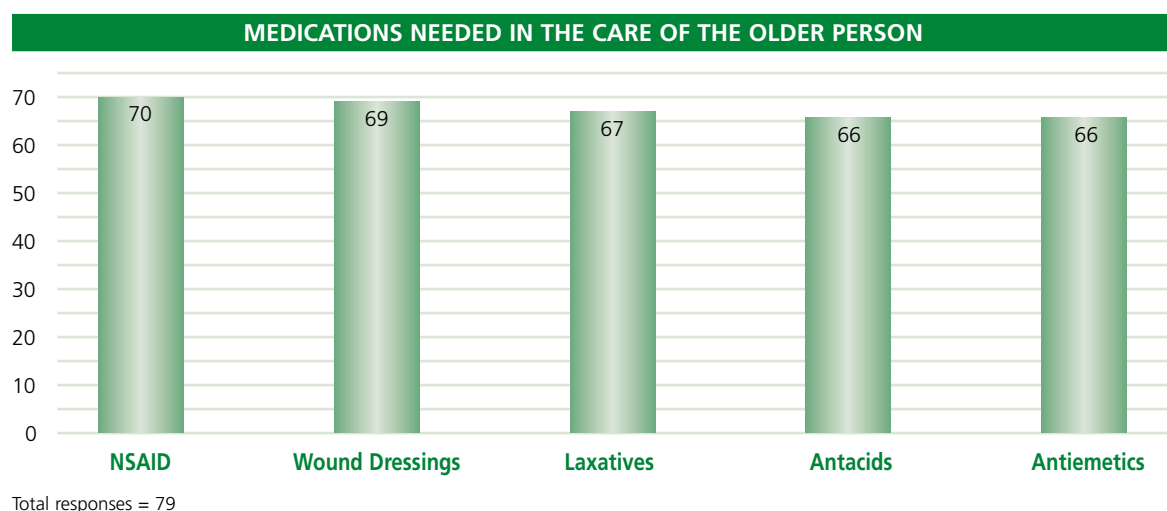
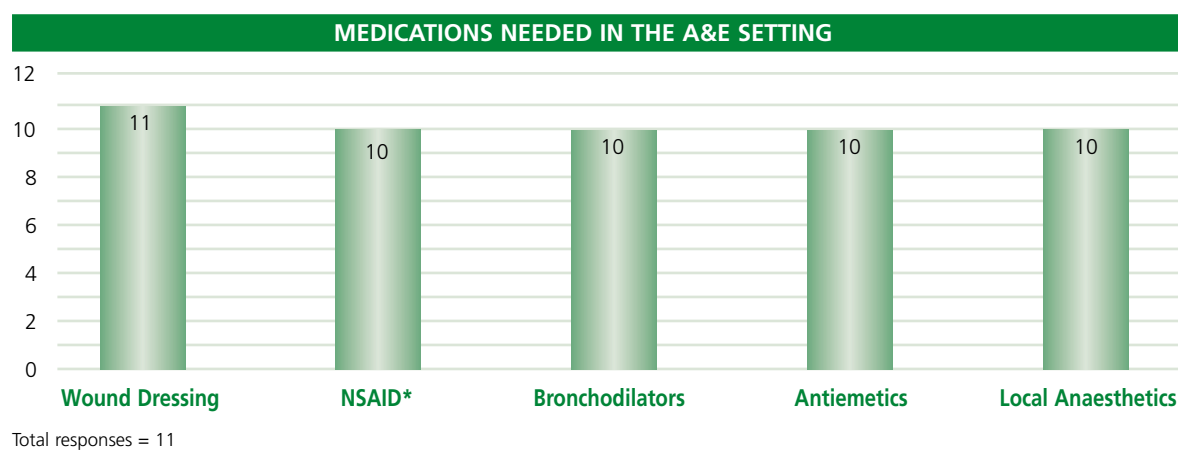
	Frequency	Percent	Valid Percent	Cumulative Percent %
North East	103	10.4	10.9	10.9
East	331	33.6	35.1	46.0
South	184	18.7	19.5	65.5
South East	100	10.1	10.6	76.1
West	145	14.7	15.4	91.5
North West	63	6.4	6.7	98.2
More than one area	17	1.7	1.8	100.0
Total	943	95.6	100.0	
Missing	43	4.4		
Total	986	100.0		

**Which of the Following Best Describes the Location of Your Work?**

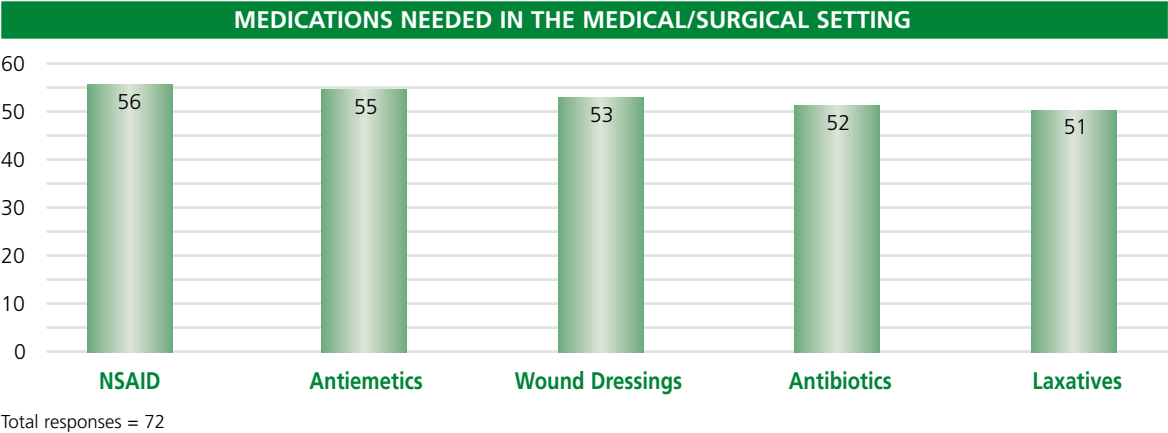
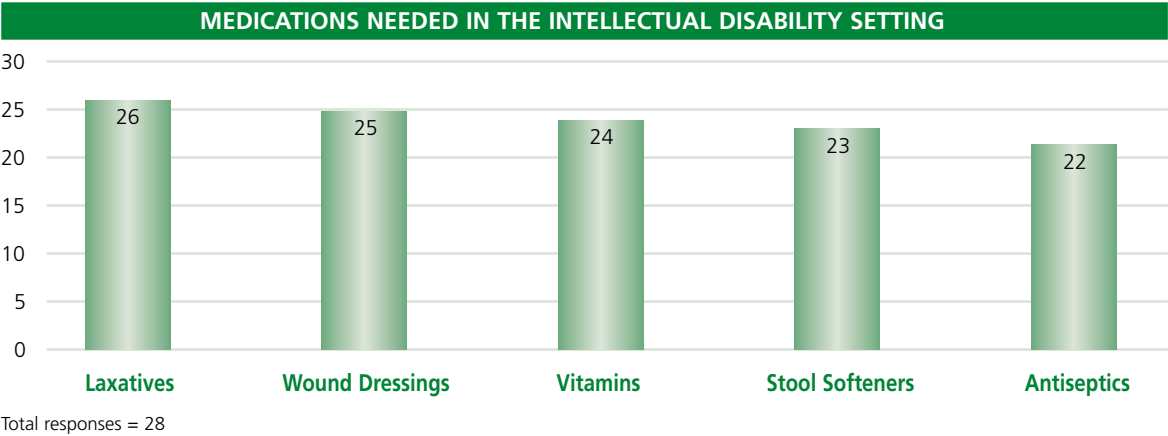
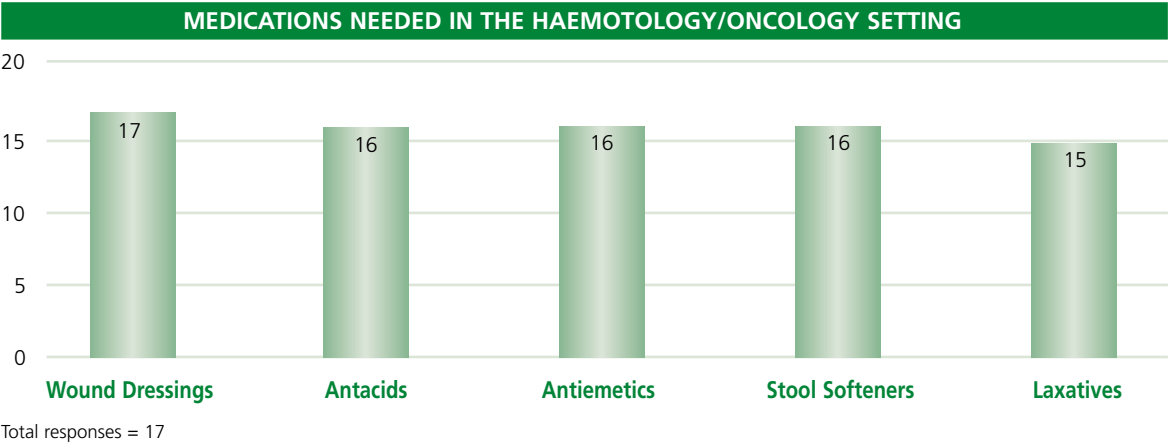
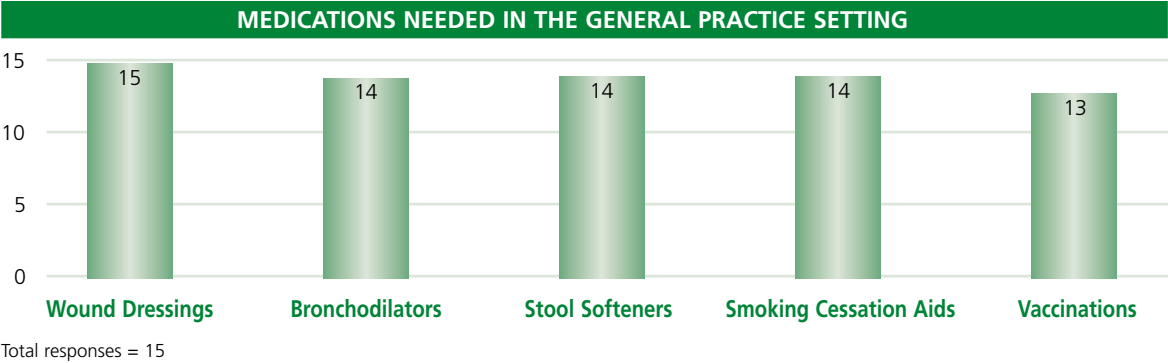
	Frequency	Percent	Valid Percent	Cumulative Percent %
Urban	559	56.7	57.6	57.6
Rural	192	19.5	19.8	77.4
Both	219	22.2	22.6	100.0
Total	970	98.4	100.0	
Missing	16	1.6		
Total	986	100.0		

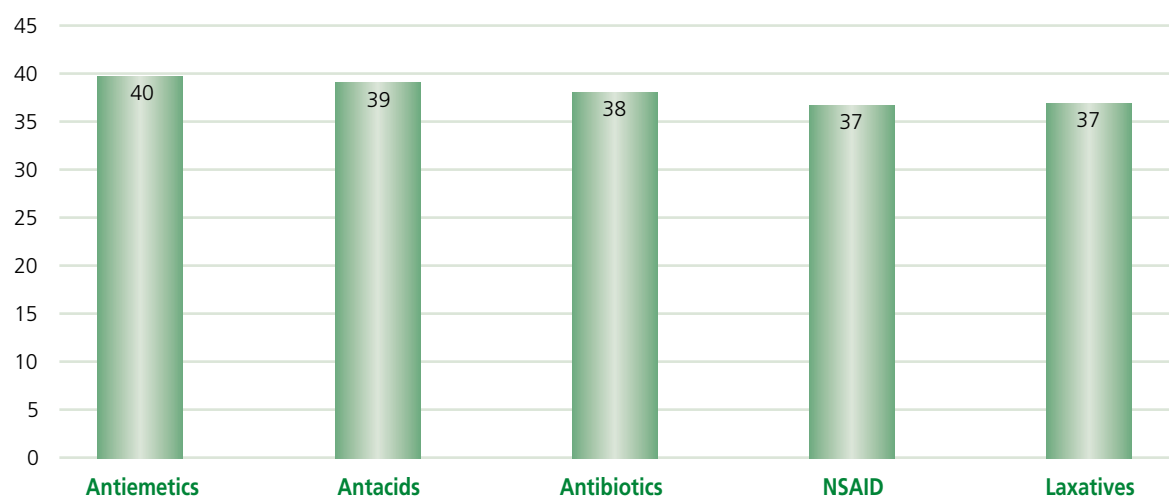
## Appendix 5 Needs Assessment Survey Results - Top Five Medications per Practice Setting

Medications needed to be prescribed by those who chose either the independent or collaborative model of prescribing.

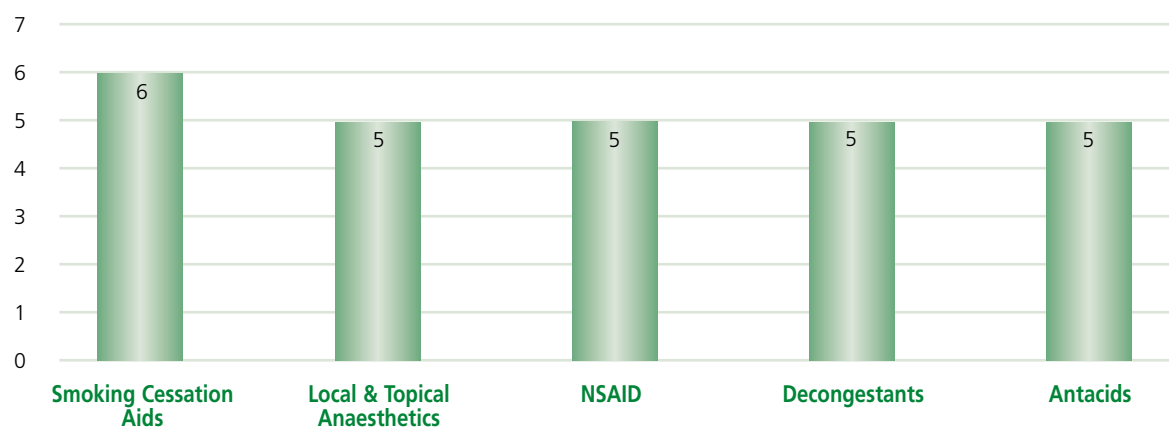


\*Nonsteroidal Antiinflammatory Drug



**MEDICATIONS NEEDED IN THE MIDWIFERY SETTING**

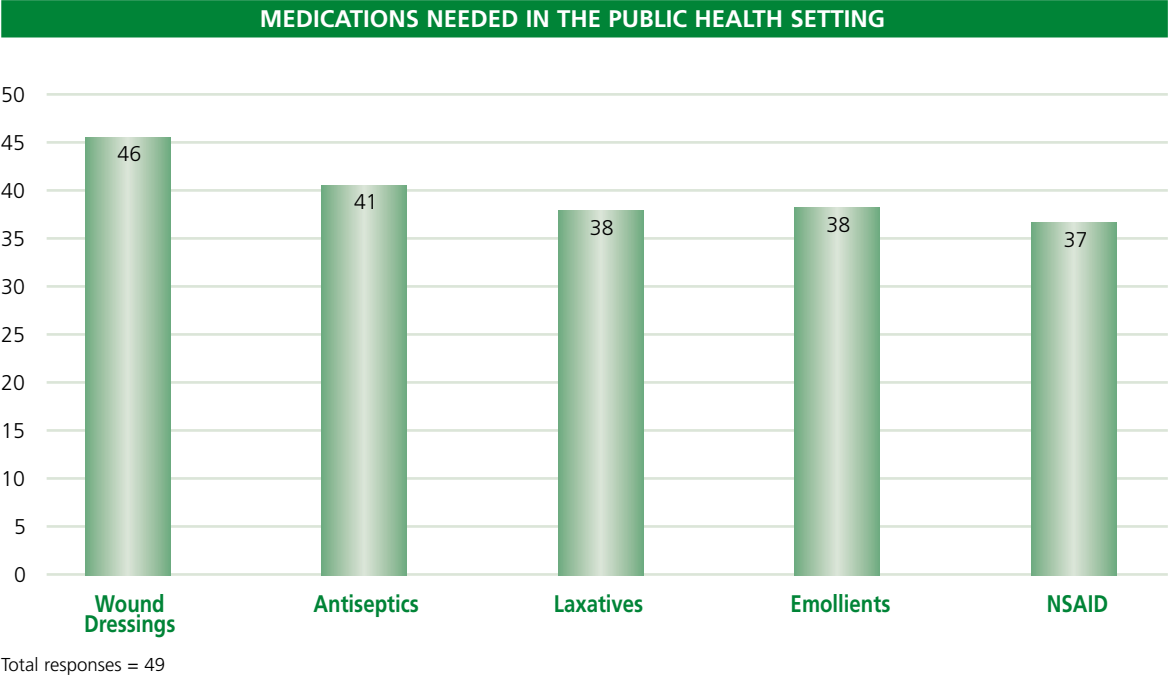
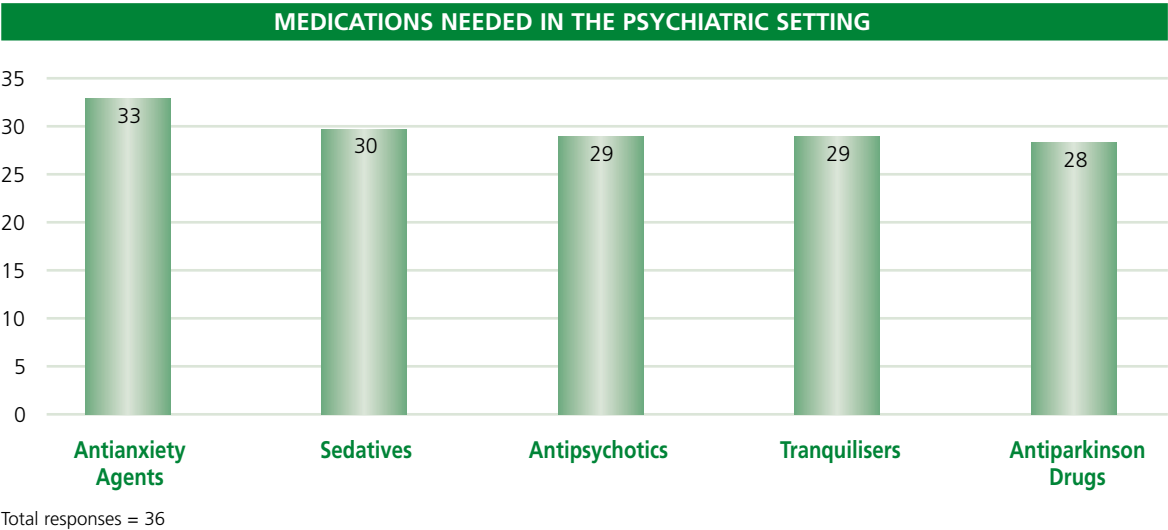
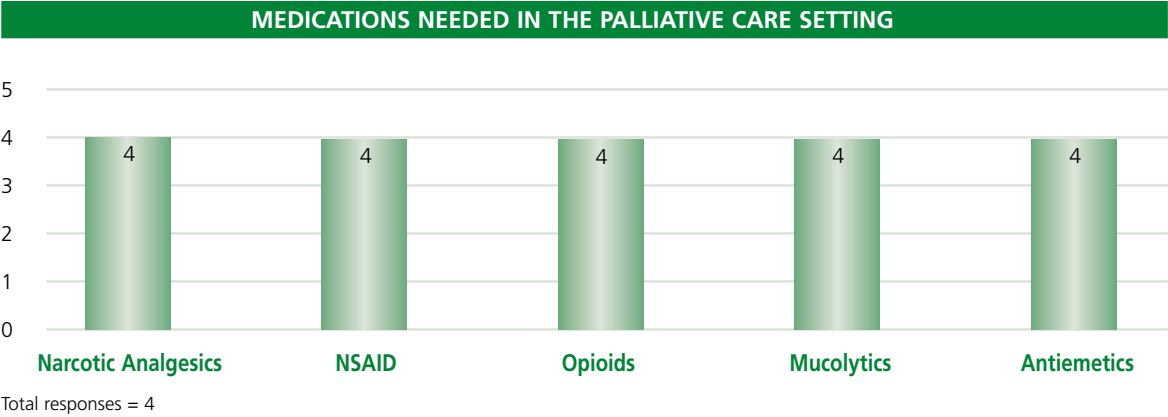
Total responses = 53

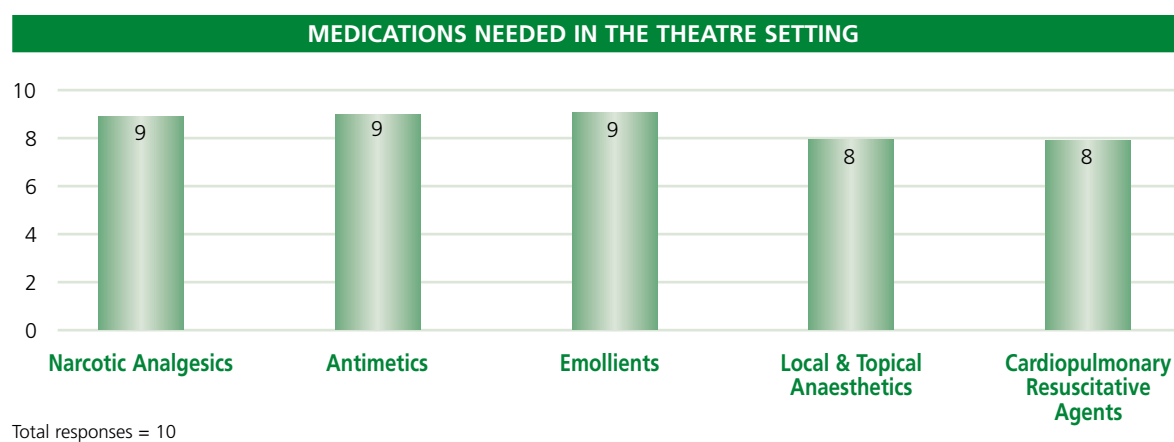
**MEDICATIONS NEEDED IN THE OCCUPATIONAL HEALTH SETTING**

Total responses = 7

**MEDICATIONS NEEDED IN THE PAEDIATRIC SETTING**

Total responses = 32









## Appendix 6 Organisations Invited to Respond to Exploration of Need Survey

Age Action Ireland	Irish Paediatric Association
Brainwave – The Irish Epilepsy Association	Irish Pain Society
Children in Hospital in Ireland	Irish Patients Association
Comhairle Na Nospidéal	Irish Society of Immediate Care
Diabetes Federation of Ireland	Irish Society for Quality and Safety in Healthcare
Disability Federation of Ireland	Irish Society for Rheumatology
Drug Treatment Centre Board	Irish Society of Medical Oncology
Health Boards Executive	Irish Society of Occupational Medicine
Home Birth Association of Ireland	Irish Society of Public Health Medicine
Hospital Pharmacists of Ireland	Irish Traveller Movement
Institute of Obstetricians and Gynaecologists	Islamic Cultural Centre
Intensive Care Society of Ireland	Medical Council
Irish Advocacy Network	Mental Health Commission
Irish Association of Palliative Care	National Association for the Mentally Handicapped of Ireland
Irish Association of Dermatologists	National Children's Advisory Council
Irish Association of Directors of Nursing and Midwifery	National Council on Ageing and Older People
Irish Association of Emergency Medicine	National Federation of Voluntary Bodies
Irish Association of Family Planning Doctors	Nursing Alliance (Irish Nurses Organisation, Psychiatric Nurses Association, SPITU)
Irish Blood Transfusion Service	Nursing and Midwifery Planning and Development Units
Irish Cancer Society	Pavee Point Travellers Centre
Irish Cardiac Society	Pharmaceutical Society of Ireland
Irish Childbirth Trust – CUIDÍÚ – Mother to Mother Support	Pre-hospital Emergency Care Council
Irish College of General Practitioners	Radiological Society of Ireland
Irish College of Psychiatrists	Royal College of Physicians in Ireland
Irish Endocrine Society	Royal College of Surgeons in Ireland
Irish Family Planning Association	South Tipperary Service Users Representative Group, SEHB
Irish Gerontological Society	Women's Health Council
Irish Heart Foundation	
Irish Hospice Foundation	
Irish Medicines Board	



## Appendix 7 Medication Protocol Framework

### Critical Elements

- Name of the organisation/department to which the protocol applies.
- Date the protocol comes into effect and an expiration date (if applicable).  
If no term is specified then its operation is indefinite until it is replaced by a new protocol covering the same subject matter or it is cancelled.

### Clinical Criteria

- Clinical condition or situation for use of the protocol
  - Definition of the clinical situation including the criteria for confirmation of the condition
  - Clearly define in what circumstances the protocol applies.
- Inclusion criteria for patient/client eligibility of protocol use.
- Exclusion criteria for patient/client treatment under the protocol.
- Descriptive listing of the actions to be instituted for those who are excluded from the protocol whether by the above exclusion criteria or because they are patients who do not wish to receive or do not adhere to the treatment protocol.
- Description of circumstances when further advice or consultation is required and the arrangements for referral.

### Medication Documentation Requirements

- Description of the classification of the medicine to which it applies (i.e. family of drugs).
- Medicine to which the protocol applies, appropriate recommended dosage, maximum total dosage, quantity, route and frequency of administration and the minimum and maximum period over which the medicine should be administered.
- In circumstances where the calculation of dose is required, validated reference charts should be available.
- Contraindications for each medicine (which may be different to the exclusion criteria).
- Relevant warnings, including potential adverse reactions, the advice (including written) to be given to the patient/client or caregiver before or after treatment. Medicinal product information should be provided to the patient/client or carer using the authorised Patient Information Leaflet if one is available.
- Procedure for reporting and documentation of errors involving medication.

### Follow-up Care

- Details of any necessary follow-up action and services. This includes arrangements for referral to medical advice. This should be as specific as possible, to include how the process of referral is to be done, when and where it should occur.
- Specific instructions for nurses/midwives and other health care professionals involved in patient/client care for reporting any suspected adverse drug reactions to the medical practitioner including the reporting mechanism for drug reactions. (Use of the Irish Medicines Board – Adverse Reaction Report Form.)
- Contact telephone number of nurse/midwife involved in the treatment of patient/client under protocol should be provided to the patient/client and documented in the patient/client medical chart/notes.

### Management and Monitoring of Protocol

- The resources and equipment necessary for care under the protocol should be specified. This is dependent on the assessment requirements and best practice guidelines identified for the clinical situation. All involved staff should be familiar with the availability and location of resuscitative equipment. Examples of facilities and supplies may include venipuncture and laboratory facilities, pulse oximetry equipment and weighing scale.

- Name and signature of staff involved in the development of the protocol (nurse/midwife, medical practitioner and pharmacist).
- Name and title of individual who has authorised the use of the protocol, (i.e. health board management, health service provider administration).
- Name and signature of nurse/midwife authorised to use the protocol.
- Named individual medical practitioner who will provide cover in absence of clinical mentor (during the three-month evaluation phase).
- The medical chart/record of the participating patient/client in the pilot site should be clearly identified with a sticker stating their participation in the project with contact details of involved nurse/midwife included regardless of whether or not the protocol medication was supplied to the patient/client.
- The nurse/midwife participant must maintain a master list of all patients/clients who have been evaluated for treatment under protocol. This is to assure a clear audit trail of record-keeping and monitoring by the service, independent verifier and Project Team.

## Appendix 8 Competencies for Collaborative Prescribing

### Domain 1. Professional/Ethical Practice

#### 1.1 Practices in accordance with legislation affecting nursing practice

- Integrates accurate and comprehensive knowledge of ethical principles, the Code of Professional Conduct within the scope of professional practice in the delivery of nursing/midwifery care
- Integrates accurate and comprehensive knowledge of the Guidance to Nurses and Midwives on Medication Management within the scope of professional practice in the delivery of nursing/midwifery care

#### 1.2 Practices within the limits of own competence and takes in measures to develop own competence

- Conducts self-audit of practice incorporating reflective practice/thinking
- Consults appropriately with medical practitioner for client when individual nurse/midwife perceives limitations in knowledge of medication management

#### 1.3 Practises within a framework of professional accountability and responsibility in relation to collaborative prescribing with the use of medication protocol

- Adheres to the legal and employing organisation standards for use of protocols in practice setting
- Complies with the requirements of the employing organisation and Irish Medicines Board for reporting adverse drug reactions and medication errors/incidents

### Domain 2. Holistic Approaches to Care and Integration of Knowledge

#### 2.1 Conducts a systematic holistic assessment of client needs based on nursing/midwifery theory and evidence-based practice

- Performs a comprehensive assessment of the client utilising the nursing process in association with the clinical criteria outlined in the medication protocol
- History-taking
- Relevant physical examination
- Psychosocial information
- Identification of health risk factors

#### 2.2 Plans care in consultation with the client taking into consideration the therapeutic regimes of all members of the health care team

- Uses assessment data with advanced clinical decision-making skills to formulate a diagnosis and plan of care

#### 2.3 Implements planned nursing/midwifery care/interventions to achieve the identified outcomes

- Implements and evaluates care based on scope of practice and medication protocol

#### 2.4 Evaluates client progress toward expected outcomes and reviews plans in accordance with evaluation data and consultation with the client

- Evaluates and provides rationale for clinical treatment decision and nursing intervention with regard to use of medication protocol or referral to medical practitioner if applicable
- Recognises and articulates the limitation of use of medication protocol in relation to responsibility of care to client

#### 2.5 Demonstrates and integrates knowledge of medications (listed in protocols) for safe medication management practices

- Knowledgeable of the drug actions and interactions, pharmacokinetics and pharmacodynamics
- Determines correct dosages, dosage form, routes and frequency of administration of medications as outlined in the devised protocol based on relevant individual client characteristics (i.e. age, gender, co-morbidity, culture)

- Identifies and utilises current medicines information in provision of individualised care
- Monitors appropriate parameters for specific drugs
- Monitors effects of medication therapy on client

## **Domain 3. Interpersonal Relationships**

### **3.1 Establishes and maintains caring therapeutic interpersonal relationships with individuals/clients/groups/communities**

- Involves client or carer as active participants in decision-making process and plan of care
- Communicates assessment findings to client
- Consults with client regarding interventions considered (may or may not require use of medication protocol)
- Provides education and information to client and/or carer concerning:
  - Medicine information of expected effects, potential side and adverse effects, proper storage and administration of medicine supplied under protocol
  - Follow-up care and monitoring necessary during course of therapy including self-treatment
  - Communicating/Reporting any concerns to health care team regarding treatment plan

### **3.2 Collaborates with all members of the health care team and documents relevant information**

- Identifies the roles of other health care providers involved with medication management and collaborates with these individuals as necessary
- Maintains comprehensive documentation and client records of plan of care including usage of medication and the provision of education

## **Domain 4. Organisation and Management of Care**

### **4.1 Effectively manages the nursing/midwifery care of clients/groups/communities**

- Participates in quality assurance review (encompassing evaluation of the quality of assessment and selection of appropriate medication protocol and implementation of changes/advances relevant to scope of practice)

## Appendix 9 Clinical Decision-Making Audit Tool

### Nurse/Midwife Clinical Decision-Making Audit Tool

Office Use Only	Activities	Yes	No	N/A
<prot1>	Did the nurse/midwife evaluate the symptoms of the patient/client's current health problem?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot2>	Was a comprehensive and/or problem focused health history obtained from the patient/client?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot3>	Did the nurse/midwife determine the patient/client's past/present medication use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot4>	Did the nurse/midwife determine the use of complementary/alternative therapies used by the patient/client?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot5>	Did the nurse/midwife identify if the patient/client had any known allergies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot6>	Did the nurse/midwife determine the patient/client's family medical history?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot7>	Were the critical elements of the physical exam conducted to confirm the signs associated with the patient's clinical condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot8>	Were appropriate diagnostic tests utilised as outlined in the protocol?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot9>	Did the patient/client satisfy the clinical criteria as stated in the protocol?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot10>	Were exclusion criteria, as stated in the protocol ruled out?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot10a>	If the patient/client has been excluded, have appropriate actions been taken?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot11>	Was an appropriate and timely consultation initiated where the patient/client's condition exceeded the confines of the protocol?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot12>	Were appropriate non-pharmacological treatment modalities considered in the plan of management?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot13>	Was the patient/client monitored for therapeutic effect of their medication?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot14>	Was the patient/client monitored for signs & symptoms of drug toxicity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot15>	Was the patient/client monitored for side effects from their medication?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot16>	Was the patient/client monitored for non-therapeutic drug interactions? (e.g. food, other drugs, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot17>	Did the patient/client have an adverse reaction to the medication?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot17a>	Was the appropriate procedure for reporting the adverse reaction conducted (as per protocol)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot17b>	Was follow up care post adverse reaction required by the patient/client?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot17c>	Was the follow-up care post adverse reaction appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot18>	Was the administration of the medication using the protocol documented in the patient/client's drug kardex®?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot19>	Was advice given to patient/client regarding their medications?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot19a>	Was the advice given appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot20>	Was follow-up appointment/care planned to appropriately monitor and evaluate the patient/client's condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<prot21>	Was the patient/client or relative advised when to seek additional assistance following discharge?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



General Comments

## Appendix 10 Patient Satisfaction with Information on their Medicines Tool

SITE ID: Patient Evaluation Tool	Nurse/Midwife Collaborative Prescribing Project
<p><b>1. In what type of healthcare setting have you been treated?</b> <span style="float: right;">&lt;pt1&gt;</span></p> <p><input type="checkbox"/> A&amp;E</p> <p><input type="checkbox"/> Community</p> <p><input type="checkbox"/> Long stay care (Residential)</p> <p><input type="checkbox"/> Out-patients</p> <p><input type="checkbox"/> GP or Health Centre</p> <p><input type="checkbox"/> Hospital In-Patient</p>	<p><b>5. Did the Nurse provide you with information on how your medication/s will treat your present condition?</b> <span style="float: right;">&lt;pt5&gt;</span></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No (skip to Q6)</p> <p>→ <b>If Yes, how satisfied were you with this information?</b> <span style="float: right;">&lt;pt5a&gt;</span></p> <p><input type="checkbox"/> Completely satisfied <input type="checkbox"/> Somewhat satisfied</p> <p><input type="checkbox"/> Neither satisfied nor dissatisfied</p> <p><input type="checkbox"/> Somewhat dissatisfied <input type="checkbox"/> Completely dissatisfied</p>
<p><b>2. Did the Nurse ask you what medication/s you are taking at present?</b> <span style="float: right;">&lt;pt2&gt;</span></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><b>6. Did the Nurse provide you with information on how you will know the medication/s are working?</b> <span style="float: right;">&lt;pt6&gt;</span></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No (skip to Q7)</p> <p>→ <b>If Yes, how satisfied were you with this information?</b> <span style="float: right;">&lt;pt6a&gt;</span></p> <p><input type="checkbox"/> Completely satisfied <input type="checkbox"/> Somewhat satisfied</p> <p><input type="checkbox"/> Neither satisfied nor dissatisfied</p> <p><input type="checkbox"/> Somewhat dissatisfied <input type="checkbox"/> Completely dissatisfied</p>
<p><b>3. Did the Nurse ask if you had any known allergies?</b> <span style="float: right;">&lt;pt3&gt;</span></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><b>7. Did the Nurse provide you with information on how long you need to take the medication/s for?</b> <span style="float: right;">&lt;pt7&gt;</span></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No (skip to Q8)</p> <p>→ <b>If Yes, how satisfied were you with this information?</b> <span style="float: right;">&lt;pt7a&gt;</span></p> <p><input type="checkbox"/> Completely satisfied <input type="checkbox"/> Somewhat satisfied</p> <p><input type="checkbox"/> Neither satisfied nor dissatisfied</p> <p><input type="checkbox"/> Somewhat dissatisfied <input type="checkbox"/> Completely dissatisfied</p>
<p><b>4. Did the Nurse provide you with information about your present condition?</b> <span style="float: right;">&lt;pt4&gt;</span></p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No (skip to Q5)</p> <p>→ <b>If Yes, how satisfied were you with this information?</b> <span style="float: right;">&lt;pt4a&gt;</span></p> <p><input type="checkbox"/> Completely satisfied <input type="checkbox"/> Somewhat satisfied</p> <p><input type="checkbox"/> Neither satisfied nor dissatisfied</p> <p><input type="checkbox"/> Somewhat dissatisfied <input type="checkbox"/> Completely dissatisfied</p>	

**8. Did the Nurse provide you with information on ways to help you remember to take your medication/s?** <pt8>

- ☐ Yes ☐ No (skip to Q9)  
☐ Don't know (skip to Q9)  
☐ N/A (skip to Q9)

**If Yes, how satisfied were you with this information?** <pt8a>

- ☐ Completely satisfied ☐ Somewhat satisfied  
☐ Neither satisfied nor dissatisfied  
☐ Somewhat dissatisfied ☐ Completely dissatisfied

**9. Did the Nurse provide you with information on any precautions about your medication/s? (e.g. food restrictions or lifestyle changes such as alcohol use and driving/operating machinery)** <pt9>

- ☐ Yes ☐ No (skip to Q10)  
☐ N/A (skip to Q10)

**If Yes, how satisfied were you with this information?** <pt9a>

- ☐ Completely satisfied ☐ Somewhat satisfied  
☐ Neither satisfied nor dissatisfied  
☐ Somewhat dissatisfied ☐ Completely dissatisfied

**10. Did the Nurse provide you with information on whether your medication/s interfere/s with other prescription medication/s?** <pt10>

- ☐ Yes ☐ No (skip to Q11)  
☐ N/A (skip to Q11)

**If Yes, how satisfied were you with this information?** <pt10a>

- ☐ Completely satisfied ☐ Somewhat satisfied  
☐ Neither satisfied nor dissatisfied  
☐ Somewhat dissatisfied ☐ Completely dissatisfied

**11. Did the Nurse provide you with information on whether your medication/s interfere/s with over the counter medication/s?** <pt11>

- ☐ Yes ☐ No (skip to Q12)  
☐ N/A (skip to Q12)

**If Yes, how satisfied were you with this information?** <pt11a>

- ☐ Completely satisfied ☐ Somewhat satisfied  
☐ Neither satisfied nor dissatisfied  
☐ Somewhat dissatisfied ☐ Completely dissatisfied

**12. Did the Nurse provide you with information on whether your medication/s will interfere with complementary therapies?** <pt12>

- ☐ Yes ☐ No (skip to Q13)  
☐ Don't know (skip to Q13)

→ If Yes, how satisfied were you with this information? <pt12a>

- ☐ Completely satisfied ☐ Somewhat satisfied  
☐ Neither satisfied nor dissatisfied  
☐ Somewhat dissatisfied ☐ Completely dissatisfied

**13. Did the Nurse provide you with information on whether your medication/s can cause side effects?** <pt13>

- ☐ Yes ☐ No (skip to Q14)

→ If Yes, how satisfied were you with this information? <pt13a>

- ☐ Completely satisfied ☐ Somewhat satisfied  
☐ Neither satisfied nor dissatisfied  
☐ Somewhat dissatisfied ☐ Completely dissatisfied

**14. Did the Nurse provide you with information on what you should do if you experience unwanted side effects from your medication/s?** <pt14>

- ☐ Yes ☐ No (skip to Q15)  
☐ N/A (skip to Q15)

→ If Yes, how satisfied were you with this information? <pt14a>

- ☐ Completely satisfied ☐ Somewhat satisfied  
☐ Neither satisfied nor dissatisfied  
☐ Somewhat dissatisfied ☐ Completely dissatisfied

**15. Did the Nurse provide your relative/carer with information on your medication/s?** <pt15>

- ☐ Yes ☐ No (skip to Q16)  
☐ N/A (skip to Q16)  
☐ Don't know (skip to Q16)

→ If Yes, how satisfied were you with this information? <pt15a>

- ☐ Completely satisfied ☐ Somewhat satisfied  
☐ Neither satisfied nor dissatisfied  
☐ Somewhat dissatisfied ☐ Completely dissatisfied

**16. Overall, how satisfied were you with the information provided to you by the Nurse about your condition and the medication/s used to treat it?** <pt16>

- ☐ Completely satisfied ☐ Somewhat satisfied  
☐ Neither satisfied nor dissatisfied  
☐ Somewhat dissatisfied ☐ Completely dissatisfied

<b>BACKGROUND</b>	
<div style="background-color: #f2f2f2; padding: 2px; margin-bottom: 5px;"> <b>17. Are you Male or Female?</b> <span style="float: right;">&lt;pt17&gt;</span> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <input type="checkbox"/> Male           <input type="checkbox"/> Female         </div> <div style="background-color: #f2f2f2; padding: 2px; margin-bottom: 5px;"> <b>18. What age category are you in?</b> <span style="float: right;">&lt;pt18&gt;</span> </div> <div style="margin-top: 5px;"> <input type="checkbox"/> 18-25 years  <input type="checkbox"/> 26-35 years  <input type="checkbox"/> 36-45 years  <input type="checkbox"/> 46-55 years  <input type="checkbox"/> 56-65 years  <input type="checkbox"/> Over 65 years         </div> <div style="background-color: #f2f2f2; padding: 2px; margin-bottom: 5px;"> <b>19. What is the highest level of education you have achieved? Please tick one box only.</b> <span style="float: right;">&lt;pt19&gt;</span> </div> <div style="margin-top: 5px;"> <input type="checkbox"/> Primary school not completed  <input type="checkbox"/> Primary school completed  <input type="checkbox"/> Secondary school not completed  <input type="checkbox"/> Secondary school completed  <input type="checkbox"/> Third level not completed  <input type="checkbox"/> Third level completed  <input type="checkbox"/> Vocational training              Other (Please specify) _____         </div> <div style="background-color: #f2f2f2; padding: 2px; margin-bottom: 5px;"> <b>20. What is your current job?</b> <span style="float: right;">&lt;pt20&gt;</span> </div> <div style="margin-top: 10px;"> <input type="checkbox"/> Unemployed           <input type="checkbox"/> Retired         </div>	<div style="background-color: #f2f2f2; padding: 2px; margin-bottom: 5px;"> <b>21. What condition did you present with?</b> <span style="float: right;">&lt;pt21&gt;</span> </div> <div style="margin-top: 10px;">           _____         </div> <div style="background-color: #f2f2f2; padding: 2px; margin-bottom: 5px;"> <b>22. How long have you had your present condition?</b> <span style="float: right;">&lt;pt22&gt;</span> </div> <div style="margin-top: 5px;"> <div style="display: flex; justify-content: space-between;"> <span>1 Day</span> <input type="checkbox"/> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Less than 1 week</span> <input type="checkbox"/> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Less than a month</span> <input type="checkbox"/> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Less than 6 months</span> <input type="checkbox"/> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Less than 1 year</span> <input type="checkbox"/> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Between 1 and 5 years</span> <input type="checkbox"/> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>More than 5 years</span> <input type="checkbox"/> </div> </div> <div style="margin-top: 20px; text-align: center;">           .....         </div> <div style="margin-top: 10px;"> <p>Please check you have answered all the questions.</p> <p>Place the survey in the envelope provided, seal it and hand it back to the Nurse who is involved in the study</p> </div> <div style="text-align: center; margin-top: 20px;"> <b>THANK YOU</b> </div>

## Appendix 11 Nurse/Midwife Participant Post-Implementation Questionnaire

### An Evaluation of the Effectiveness/Competence of Nurses and Midwives Clinical Decision-making in the Prescribing Process using Medication Protocols

Please provide a brief explanation with your answer to each of the 12 questions below.

**1. Do you think this model was effective in providing easier access to treatment for patients/clients?**

Yes ☐

No ☐

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**2. Do you think this model has supported your ability to provide holistic care to the patient/client?**

Yes ☐

No ☐

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**3. Has this model provided for more timely treatment to patients/clients?**

Yes ☐

No ☐

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**4. Has the use of this model led to better use of resources of the multidisciplinary health care team in your practice setting?**

Yes ☐

No ☐

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**5. Do you think your professional nursing/midwifery skills have been more fully utilised with this model of prescribing?**

Yes ☐

No ☐

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**6. Briefly describe your experience of collaboration with your clinical mentor during the pilot study. Please include your perception of collaboration in relation to the development of the medication protocols and the clinical mentor's role as a resource/support person.**

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**7. Briefly describe your experience of collaboration with the pharmacist. Please include your perception of collaboration as it relates to the development of the medication protocols and the pharmacist's role as a resource/support person during the implementation phase.**

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*Acknowledging the time delay between the conclusion of the education programme in September 2003 and the commencement of the pilot implementation phase in November 2004 we ask you to think about your experience during and after the education programme in responding to questions 8, 9 & 10.*

When answering Question 8 reflect upon the learning outcomes of the education programme with special regard to the 4 units of study listed below.

- Diagnosis, Systematic Assessment and Evaluation in Patient Care
- Pharmacology and Prescribing Outcomes
- Professional, Ethical and Legal Practice
- Communication, Collaboration and Inter-professional Relationships

**8. Do you think the education programme adequately prepared you in your clinical decision-making in using the prescribing process?**

Yes ☐

No ☐

*Please provide a short response with your answer.*

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**9. How useful was the education programme requirement of 96 hours/12 days for clinical instruction and supervision by the designated medical practitioner?**

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**10. Regarding the Competencies for Collaborative Prescribing, did they facilitate your knowledge and competence for the prescribing process?**

Yes ☐

No ☐

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**11. What were the advantages of using this model of collaborative prescribing in your practice setting?**

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